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NAVY AIRCRAFT PROCUREMENT PROGRAM

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HEARING

OF THE

SUBCOMMITTEE FOR SPECIAL INVESTIGATIONS

OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

EIGHTY-FOURTH CONGRESS

FIRST SESSION

UNDER THE AUTHORITY OF

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FEBRUARY 4, 1955

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NAVY AIRCRAFT PROCUREMENT PROGRAM

FRIDAY, FEBRUARY 4, 1955

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE FOR SPECIAL INVESTIGATIONS,
Washington, D. C.

The subcommittee met at 10:30 a. m., the Honorable F. Edward Hébert, chairman of the subcommittee, presiding.

Mr. HÉBERT. The committee will come to order.

For the benefit of the photographers, you get your pictures now, because as soon as we start the hearing there will be no pictures taken.

(Pause.)

Mr. HÉBERT. There will be no more pictures from now on.

The committee will come to order.

Mr. Courtney, will you note the members present?

Mr. COURTNEY. Mr. Hébert, Mr. Brooks, Mr. Hess, Mr. Rivers, Mr. Cunningham, Mr. Bates, Mr. Nelson, Mr. Miller, constituting a quorum of the committee, Mr. Chairman.

Mr. HÉBERT. Members of the committee, this hearing is called this morning on instructions of Mr. Vinson, the chairman of the full committee, to inquire into the aircraft procurement program of the Navy.

The instructions grew out of the testimony of the Secretary, Mr. Thomas, before the full committee last week, in which he expressed concern over the procurement policy and later said he was happy, that everything had been cleared. In spite of that, Mr. Vinson instructed us to hold these hearings.

So under those instructions, we will call the hearing this morning.

Mr. Courtney, will you read the precept?

Mr. COURTNEY. Mr. Chairman, the precept received from the chairman of the full committee is contained in the transcript of January 28 of the full committee, which commences with a question by Mr. Bates of the Secretary and follows with his answer and a colloquy between the chairman and the Secretary and yourself.

First the proceeding started with the question:

Mr. BATES. Mr. Secretary, I haven't had an opportunity to read your statement. I had constituents come in and of course they become of the first order of magnitude. But I did notice on page 6 a reference to contract accelerations which has concerned me for a long time. I wrote a letter to you about 2 weeks ago and I got an acknowledgment. Perhaps by this time you are not in position to answer it, and that is perfectly all right. I have confidence that you will look into the matter thoroughly. But for the last 2 or 3 years the Navy has had between $2.2 and $2.5 billion worth of contract terminations pending, and that is because of many planes like your F–10–F and AD–2 and your J–40 engines, many of which, in my judgment, from the information which I can receive, were improperly conceived or perhaps not even conceived at all when the initial production order was given, and as a consequence you have had frames come off

the production line or engines and the other little parts which might have been in somebody's mind and were never even reduced to the drawing board, never did come through, and as a consequence the full plane was never able to fly in many instances.

Now, perhaps, Mr. Secretary, at the moment—I know from your communication that you are looking into the matter and a report at a later time will be perfectly all right, if you are not in position today to comment on it.

The Air Force, as you know, a week ago, did put out a new program whereby they are going to really evaluate and really test the prototypes before they give the production orders.

Secretary THOMAS. Well, Mr. Bates, I don't think you were here, maybe, when I said it, but that whole transition from propeller type of airplane into jets is a very—that is a very major transition, and you are going into a lot of unknowns, and a lot of the first jets that were on the drawing board with certain specifications, and the like, did not develop. That applies to all the services.

Mr. BATES. Yes, sir.

Secretary THOMAS. You can't make that transition, in my opinion, without having some rescheduling and having some new planes that don't develop into the standards that are originally laid out. Now, we are a lot further along on that than we were then. I think we are much further along where our program will be much better. I have not been happy about the Navy's air program in the past.

The CHAIRMAN. You said what, Mr. Secretary?

Secretary THOMAS. I have not been happy about the naval air program in the past as to planes, but we can't go back 3 years and do that now.

The CHAIRMAN. Now, explain for Mr. Bates and the committee which way you have been unhappy about the Navy's air program.

Secretary THOMAS. The development of our new planes. I mean, they all didn't develop the way that we had hoped they would, but I think that is bound to come out of the transition, as I say, from a conventional propeller type of plane to the new jets. That has been over, that interim, and now we have the planes coming and they are in production and are coming out. I think that is in the past.

The CHAIRMAN. Well——

Mr. BATES. There were two other things, Mr. Secretary——

The CHAIRMAN. Mr. Bates, will you yield right there?

Mr. BATES. I always yield to my chairman.

The CHAIRMAN. I think, in view of what the Secretary said, that he has been unhappy about the naval aviation—and of course that is such an important matter—that I do think, Mr. Hébert, that it is a matter that your subcommittee, which was created by Congress yesterday, should look into most carefully, and see what has caused the unhappiness to the Secretary, and if there are any defects, to bring it to our full attention so we can correct it by statute or the Secretary can correct it by regulation.

So I suggest that you and Mr. Bates on that committee, and Mr. Brooks and Mr. Rivers and Mr. Gavin—Mr. Secretary, I think that matter ought to be considered by this subcommittee, and let's go into it as the second thing on your agenda, Mr. Hébert and Mr. Bates. I would suggest you look into that because if the Secretary is unhappy about it, why, we want to find out what is causing the unhappiness.

Mr. HÉBERT. We will thoroughly explore it, Mr. Chairman.

The CHAIRMAN. One minute. Now, let's get back to Mr. Bates.

Secretary THOMAS. My statement was related to the past.

Mr. BATES. Yes, sir.

Secretary THOMAS. And I think those problems have been pretty well resolved now.

The CHAIRMAN. Well, anyhow, let's look into it.

The colloquy continues, but I think that states the precept, as the chairman indicated it.

Mr. BROOKS. I made some statement along that line, too, that you didn't read, but I don't think it changes the result.

The CHAIRMAN. We will accept the statement.

Mr. BROOKS. Never mind.

Mr. COURTNEY. Well, I will be glad to read the rest of the colloquy.

Mr. BATES. That is the essence of it.

Mr. HÉBERT. That is sufficient. That is the essence and the reason why we are here.

Now, Mr. Secretary, do you have any prepared statement to make? We will be pleased to hear from you and proceed in the manner in which you so desire.

Mr. BATES. Mr. Chairman.

Mr. HÉBERT. Mr. Bates.

Mr. BATES. Since my name has been mentioned and since I brought this up originally, I would like to have the committee understand my particular interest in this matter. I have been out of touch with this for some time, as you probably know. It was around 4 or 5 years ago that I was a little more familiar with the circumstances here, and the cases that I mentioned are about that old, 4 or 5 years old. I didn't know what changes had transpired since that time. That was the purpose of the question which I directed toward the Secretary.

TESTIMONY OF HON. CHARLES S. THOMAS, SECRETARY OF THE NAVY

Mr. HÉBERT. Now, Mr. Secretary, do you want to proceed?

Secretary THOMAS. Mr. Chairman, I do have a statement, and I have a lot of other information that we are going to give you. We are going to give you the complete detail of this program, not only in the past but brought up to date. It involves a lot of restricted and confidential information that has to do with security, and there is so much of that involved in it, in all these facts, that I am going to have to ask that it be in executive session, because it involves a great deal of security information.

Mr. HÉBERT. Do you feel, Mr. Secretary, that at this time in a public hearing, in the interest of security, you cannot make any public statement?

Secretary THOMAS. I do, Mr. Chairman.

Mr. HÉBERT. In connection with this matter?

Secretary THOMAS. I think the information we are going to give you would have to be in executive session.

Mr. BROOKS. Mr. Chairman, before you go in executive session, could we ask the Secretary a few questions, which the press could get, as to whether or not he thinks now the situation is so improved and if he couldn't amplify that, because I understand from the record he said that was pretty much behind. And couldn't you give a general statement that the press could carry out, which would be more reassuring than the statements that were made in that other hearing?

Secretary THOMAS. Well, yes, I think so.

As I said at that time, whenever you cut back your contracts in a year from $1,900 million to $700 million, there is a reason for it. I mean there has to be. And I don't think—and I will repeat that I wasn't happy that that had to be done. But that was caused by a program that went back several years. That was just a result from that program.

Now, I think that has been reprogramed. We have taken a lot of different steps. We have a completely new concept of aircraft procurement in the Navy Department. I think many of those things have been resolved, and we are going to show you now all the facts, both, as I say, in the past, today, and what our program is. But it does involve a great deal of security information.

Mr. HÉBERT. Mr. Courtney, before we ask the committee's reaction

to the Secretary's request for an executive session, do you have any questions that you desire to ask?

Mr. COURTNEY. Two questions, Mr. Chairman.

In view of what the Secretary has just answered and as a part of the Navy Department's comment on this subject, I think it might be appropriate, Mr. Chairman, to introduce, as part of this record, a press release of January 27, 1955, made by the Navy Department in which the present concept of procurement is outlined in substantial detail.

Mr. HÉBERT. Without objection, it will be made part of the record.

(The press release follows:)

[No. 82–55. Hold for release until 6 p. m., January 27, 1955]

DEPARTMENT OF DEFENSE,
OFFICE OF PUBLIC INFORMATION,
Washington 25, D. C.

AIRCRAFT PROCUREMENT SYSTEM MODERNIZED BY NAVY

A sounder, more efficient method of procurement and introduction of Navy combat aircraft to the fleet which has been under evaluation for over 2 years, now has proved to be the answer to many of Navy's aircraft procurement problems, the Navy announced today.

Briefly the plan calls for a low rate of production on a new plane in the first 3 years, with all production planes going immediately into the test program. Fleet delivery of planes is withheld until the entire test work on a new model is virtually completed and discrepancies and changes required as a result of test have been made on the production line. Thus, when planes are delivered to operational squadrons they are as nearly combat ready as possible and will require no major "fixes" in the field.

This contrasts with World War II practice and up to a few years ago of early production build up and fleet delivery of planes which inevitably required many changes to the basic aircraft by fleet maintenance.

The vastly increased complexity of modern jets has made long range accurate forecasting of production deliveries extremely difficult for the Navy's Bureau of Aeronautics. In present combat aircraft many of the complicated supporting components, particularly electronics and engines, must be selected while the components themselves are in varying stages of development.

Experience made clear that the once standard plan of production did not include a long enough time to evaluate the new design and work out the bugs. The philosophy developed during World War II projected a production buildup as rapidly as possible after the first flight of a prototype. This worked well enough for the more conventional aircraft and was limited only by the production capabilities of the manufacturer. When this same schedule was applied to present-day high performance types, it too often resulted in pools of aircraft awaiting the installation of extensive changes and modifications which tactical deployment had proved imperative.

To reduce the problems of selecting components, a program is being proposed in which various types of complex equipment will be produced on a pilot-line production basis before they are selected for a specific aircraft installation. Attention is also being given to the matter of alternate or backup installations, so that when various developmental problems are encountered, a comparable item can be substituted without seriously retarding the airframe schedule.

Other steps are also being taken to reduce delays. The airframe manufacturer is being given increased responsibility for system coordination. It will be his responsibility to integrate and correlate various related components, furnished either by the Government or the contractor, into a completely coordinated system. This procedure is particularly applicable to armament fire control, where it is necessary to integrate radar, instrumentation, and flight controls.

The new look in production means that while the industrial capacity to turn out a new model aircraft is available, it is not used to its normal peacetime capacity until the design has been proved and all resulting major changes have been incorporated. The Navy hopes the plan will go far to alleviate some of the current difficulties and avoid similar pitfalls in the future.

Its basic principles were originally the subject of a presentation to the Air Board some 2 years ago by Capt. J. N. Murphy, USN.

The Navy first put production of certain models partially under the system and is now planning future models under a full implementation. The first production to come under the plan was the Grumman S2F–1 sub hunter.

The Bureau of Aeronautics requires accelerated service evaluation to demonstrate that the model is operationally usable prior to the commencement of fleet deliveries, and to indoctrinate selected fleet personnel in its operation and maintenance. This will lead to establishing of early fleet readiness configurations and will assure higher quality, standardized production aircraft, it will reduce the likelihood of costly modifications, thus permitting the most economical production program. Any acceleration of the production schedule will be delayed until the fleet-ready configuration has been established by the test program.

The Navy policy further requires that contractor test and demonstration of a new aircraft be completed prior to the delivery of any airplanes to the Navy for accelerated service tests and trials.

The most positive approach to this problem is to utilize a larger number of test airplanes in order to complete the required testing in a shorter time. The utilization of a larger number of airplanes for contractor demonstrations eliminates the necessity of taking airplanes off flight status for extended periods during a program to change the test instrumentation configuration for the following phase. Availability of larger numbers of test aircraft also permits the transfer of the most urgent tests to another instrumented airplane in the event of unforeseen delays in the program.

The following is typical scheduling on a new carrier aircraft put in production:

(*a*) The first six aircraft would be assigned to the contractor for general performance and flight safety test demonstration. Any discrepancies found during these and subsequent tests are incorporated in the production line immediately.

(*b*) The next seven would be assigned to the Navy Board of Inspection and Survey for trials and for determination, as required by Navy regulations, of the fulfillment of contractual guaranties and fleet suitability.

(*c*) The next four would go to the Naval Air Test Center, Patuxent River, Md., for accelerated evaluation and development service tests.

(*d*) The next six aircraft would be assigned to fleet introduction test program, normally at Patuxent River. The operational objectives of this phase of test work are:

1. To determine the service acceptability of the aircraft for immediate introduction into the fleet as an operationally suitable aircraft to perform its designed mission.

2. To transfer to fleet operating personnel (both pilots and ground crews) the technical know-how on operating techniques and maintenance techniques for the aircraft and its installed equipment. Fleet operating and maintenance personnel will be brought to Patuxent River for this phase.

In general the fleet introduction phase follows this program: A goal of a certain number of hours is set for the project. Working hours typical of a squadron undergoing training are followed. Sometimes it is necessary to vary work days and hours in order to achieve the hour goal and the target date of completion. In addition to training fleet pilots and men, information is obtained on aircraft availability, usage data on all spare parts, operational difficulties and operational techniques peculiar to the aircraft. During the period of the project, maximum assistance is made available to fleet pilots and ground crews by the Naval Air Test Center, the airframe and engine contractors (including field service representatives), and airplane equipment contractors' representatives.

The following is the fleet introduction test phase on the North American FJ–3 Fury carrier fighter—the first plane to come fully under the new plan from go ahead to production deliveries to the fleet.

The project took place at the Naval Air Test Center, Patuxent River, Md., from August 7 to September 17 last year. Fleet pilots from both east and west coast carrier squadrons as well as service test pilots from Patuxent were used. In this 6 weeks period and using 6 FJ–3 aircraft, a total of 803.4 hours was logged on the test program, which was most successful from the point of view of proving the plane ready for fleet deliveries. This type fighter began fleet deliveries soon after.

Assuming satisfactory release of the aircraft following this service test, production is accelerated consistent with the requirement for the model. Later changes found desirable can be integrated into the program without serious

disruption in production. On the other hand, should any of the test phases show a major design deficiency, production can be economically held at a low level until corrective measures can be taken without a costly and time-consuming program of modification for large numbers of completed aircraft.

Tooling for production in line with this revised philosophy in scheduling has been developed. In the past, the standard procedure for tooling a new aircraft design consisted of building the initial X or prototype model by job shop or temporary tooling. This was followed by the construction of rate type production tooling when a quantity order for the aircraft was placed.

Owing to manufacturing difficulties experienced with heavy wing skins, large forgings, etc., of the type required for transonic and supersonic aircraft, this procedure has proved to be extremely costly and inefficient since the makeshift tooling utilized in constructing the initial aircraft could not be used for production runs and was therefore a completely nonrecoverable cost. Further, the construction of a modern aircraft by job-shop methods is an extremely costly operation because of the complexities of the structures involved.

In order to make the transition from initial prototype to quantity production more economical, increased stress is being placed upon designing the initial article for quantity production and producing the early aircraft on tooling designed for production of higher quantities when the development of the model warrants such action. Although this makes the initial phases of the program more costly, it is, in the long run, economical. Tooling constructed for quantity production which will come later represents a recoverable cost. Such tooling can be supplemented or duplicated to accommodate any desired production rate.

The success of this procedure is entirely dependent upon careful preliminary design studies, wind tunnel tests and sound production engineering. The extremely high cost of modern aircraft warrants such action. Results to date have been extremely gratifying and are expected to result in a much more economical and orderly introduction of new designs into full production.

Besides being a technically sounder and less expensive basis, the new plan gives the Navy a better chance to evaluate thoroughly a new product before actually committing large production funds. At the same time the contractor has a more dependable goal for his own planning resulting in more orderly and stable operation for the aircraft industry.

Mr. NELSON. Mr. Chairman, may I ask the Secretary a question?

Mr. HÉBERT. Mr. Nelson.

Mr. NELSON. Mr. Secretary, under your present program are the Navy aircraft coming regularly off the line and being delivered to the Navy and not being constantly held up for modification?

Secretary THOMAS. Well, Mr. Nelson, we are going to show you that in detail, that program, and I think you have to hear the whole background of it. Because it is a new program and we think a very good one. But, as I say, involved in it, in the background, is so much security information——

Mr. NELSON. You wouldn't want to answer that question generally, then?

Secretary THOMAS. Well, I think I will answer the question. Will you state again what you——

Mr. NELSON. Under your present Navy program, are your aircraft coming off the line and being delivered to the Navy and being put into service and not being constantly held up for modification?

Secretary THOMAS. Yes, sir.

Mr. BATES. Will the gentleman yield on that point?

Mr. NELSON. Yes.

Mr. BATES. I think, Mr. Secretary, there are always those circumstances or circumstances do arise, where sometimes adjustments must be made even after they come off the line.

Secretary THOMAS. Well, we will show you pretty well in detail how we are handling that. But my answer to Mr. Nelson's question is "Yes."

Mr. HÉBERT. Do you have any further questions, Mr. Courtney?

Mr. COURTNEY. Mr. Chairman, before we get into the executive session, the word "slippage" has been rather freely used in comment on that subject. In the interest of improving or increasing our glossary of terms, it has been suggested that we have that defined for us by competent authority.

Mr. HÉBERT. Can you answer that question, Mr. Secretary?

Secretary THOMAS. Well, yes. Any of us here can answer it. I would like to ask Mr. Smith, who was head of that department for a long time and has a background in that field, if it is all right with you, to answer that.

Mr. HÉBERT. Why, certainly, Mr. Smith.

Secretary SMITH. Well, slippage, to me, means the change in the schedule which you originally set up with the manufacturer for delivery. In other words, when you make a contract, you set forth a long-term program whereby certain numbers of aircraft are to be delivered over the period of 2 or 3 years. And the moment you start falling behind that schedule, that is slippage. In some cases it is stoppage.

Mr. COURTNEY. Well, Mr. Secretary, does that mean the same to everyone in the Navy?

Secretary SMITH. Well, I will have to ask some of the other people here.

Mr. HÉBERT. If you use the term, you have to use the term as understood by everybody. Now, the committee seems to be in doubt as to exactly what it means. So we want to know what we are talking about when we use the term slippage, so everybody understands the same thing.

Secretary THOMAS. Well, the Secretary's description of the word is right. Because you set out a long-term schedule and it gets down to so many airplanes per month. And we will say that in a 6-month period there are 100 airplanes to be delivered. Well, when you start to slip behind those schedules, when you don't get 100 airplanes delivered over that period, and you only get 60, you had a slippage of 40 airplanes. And you built that up in many cases.

Mr. HÉBERT. In other words, it is a delay in the program. It is just a word that has been introduced recently that means delay.

Secretary THOMAS. Well, your program is slipping behind.

Mr. HÉBERT. We understand. Slippage and delay are synonymous as pertain to this.

Secretary THOMAS. Yes. The deliveries are not——

Mr. HESS. Scheduled.

Secretary THOMAS. Scheduled.

Mr. HÉBERT. That is correct. It is not up to par or the program. Does any other member of the committee——

Mr. BROOKS. Mr. Chairman, may I ask another question?

In reference to the defense budget, there was an item there of about $1.75 billion, I believe, which was unallocated balances, I believe.

Now, the word "slippage" was used in reference to that item. Would that have the same meaning? Would it be savings to the slippages in the delivery of aircraft? In other words, where you got behind schedule and you wouldn't spend your money, would that $1.75 billion mean slippage through that means?

Secretary THOMAS. Well, it could be in that year. I mean, for instance, if you had so much program for delivery of aircraft schedule

in 1 year and you budgeted for that, and if you had a slippage in that program and you only delivered half of it that year, you wouldn't have to spend——

Mr. BROOKS. In effect——

Secretary THOMAS. It wouldn't necessarily mean you would save the money. You would save the expenditure of it in that year, but if those deliveries were picked up later, you wouldn't have a net saving.

Mr. BROOKS. In effect, it is really saying your failures will amount to $1.75 billion.

Secretary THOMAS. Oh, I don't think so.

Mr. BROOKS. It could be that, couldn't it?

Secretary THOMAS. Oh, I don't think so. But I don't think you could have a $34 billion program and have delivery on schedule. I just think that is impossible; I mean, you are talking about a year and a half ahead, now, programing. When you get into long-lead term items, aircraft production slippages and all, you are bound to have some slippage in your program.

Mr. BROOKS. Part of that unallocated balance, then, of 1¾ billion would come through, say, failures in the deliveries of aircraft there?

Secretary THOMAS. Well, it might or it might not.

Mr. BROOKS. It would be money left over that you wouldn't spend because of the failures to deliver.

Secretary THOMAS. Well, it wouldn't be a failure, necessarily. You might have in 1 year—you might have a 2-year schedule of so many aircraft to deliver. The first year you might not get all of them. You might pick it up in the next 3 months and the next year. Slippage doesn't necessarily mean a failure. It means that your program isn't right on schedule.

Mr. BROOKS. It is a delay.

Secretary THOMAS. Now, there are no programs that I know of in large amounts that are always right on schedule.

Mr. HÉBERT. In connection with that, Mr. Secretary, and for the benefit of the committee and the record, let me make this statement now: This particular subject to which Mr. Brooks has referred is the so-called 5 percent saving, as I understand it.

Mr. BROOKS. That is right.

Mr. HÉBERT. Well, that matter has been kicked around in the full committee and many many minutes wasted on explaining what was meant and what was not meant. So for the purpose of this hearing we will stand on the explanation given in the full committee, which I think the committee understood and in which Mr. Wilson was the individual that first made the reference in Mr. Wilson's statement. Let's set at rest all this talk about the 5 percent business.

Mr. BROOKS. Wait a minute——

Mr. HÉBERT. Wait a minute——

Mr. BROOKS. Now——

Mr. HÉBERT. I will let you be heard. I am merely saying what Mr. Wilson said and what the committee understood, and we will forget about that statement. It is settled or not settled. Mr. Wilson said this, as I understood it: He repeated and explained to the committee, when he was referring to the 5 percent saving or not saving, that in a projected budget of the magnitude of $34 billion plus, you had to give or take 5 percent one way or the other. It could easily be a saving or a loss of 5 percent, and you could not pinpoint on

the nose exactly what your final figure would be. Now, that was his testimony. That was the testimony explained.

This matter was brought up time and again in the full committee. As far as this committee is concerned, it is a subject that has been explained. If we don't understand it, well, we just have to understand it for our individual selves at this time. So, now progress with the matter before the committee.

Mr. BROOKS. Mr. Chairman, let me reply to that. It is not my intention to go into the $1.75 billion. But it was simply at the chairman's suggestion that we wanted to know what the word "slippage" meant. And I wanted to know if it had an application to that. It was just in the interest of clearing up the meaning of the word "slippage," which the chairman himself raised. I think it is perfectly proper in asking it.

Mr. HÉBERT. All right. If you are satisfied with that explanation.

Mr. BROOKS. I am very pleased.

Mr. HÉBERT. Note that Mr. Brooks is happy with his explanation and understands it.

Now we will proceed. Now we will have a vote on the executive session, under the rules of the committee, in answer to the request of the Secretary.

Mr. Courtney, call the roll.

Mr. RIVERS. The Secretary is not going to testify if we do not go in executive session.

Mr. HÉBERT. The chairman votes "Aye."

Mr. COURTNEY. Mr. Hess.

Mr. HESS. Aye.

Mr. COURTNEY. Mr. Cunningham.

Mr. CUNNINGHAM. Aye.

Mr. COURTNEY. Mr. Bates.

Mr. BATES. Aye.

Mr. COURTNEY. Mr. Nelson.

Mr. NELSON. Aye.

Mr. COURTNEY. Mr. Rivers.

Mr. RIVERS. Aye.

Mr. HÉBERT. By unanimous vote of the committee, the committee will now go in executive session at the request of the Secretary.

Secretary FOGLER. Mr. Chairman.

Mr. HÉBERT. Yes, Mr. Secretary.

Secretary FOGLER. Before we go in executive session, I think these individuals might like to know that the background of the policy which was referred to in the press release goes back to October 1953, when a modification procurement regulation was made, and the simple part which refers to what we are considering today is simply this:

> It is the general policy of the Navy not to place contracts for quantity production of technical or specialized supplies which (1) still require significant development of design modification or (2) have not been appropriately tested and evaluated.

That is the background which is behind the present not only airplane procurement but procurement of all technical items which need to be evaluated before put into service.

Mr. BATES. Mr. Chairman——

Mr. HÉBERT. Mr. Bates.

Mr. BATES. The Air Force put out a release of that nature a week or two ago, and it was that that prompted me to write the letter to the Secretary. So we understand that you have had the same thing in effect for a year and a half.

Secretary FOGLER. The background of it, yes. It was interpreted into more detail.

Mr. BATES. I see.

Secretary FOGLER. In the airplane procurement from that time up to the present.

Mr. BATES. I see. But the difficulty you have with the J40 engine was back—I shouldn't say "you," because it was long before——

Secretary FOGLER. We have all had.

Mr. BATES. 1951.

Secretary FOGLER. 19——.

Secretary THOMAS. 50.

Secretary FOGLER. The previous year.

Mr. BATES. Yes, sir. That is the point.

Mr. HÉBERT. Thank you very much, Mr. Fogler.

The committee will now go in executive session.

Mr. Secretary, will you designate those who may remain, who are sitting behind you?

Secretary THOMAS. Admiral Nunn, will you designate the ones?

Admiral NUNN. Yes, sir.

(Whereupon, the committee proceeded into executive session.)

EXECUTIVE SESSION

[No objection to publication on grounds of military security—February 11, 1955, Office of Public Information, Department of Defense]

(See appendix B, exchange of correspondence.)

Mr. HÉBERT. Mr. Secretary, for the record will you indicate who is present in the room, because it is highly restricted information.

The chairman would request that you designate the name and the position that each individual in this room holds.

Let it be made a part of the record. Have you it, Admiral?

Admiral NUNN. I don't have that.

Secretary THOMAS. Mr. Chairman, we will give you a list of each one of their names and their connection with the Department.

Mr. HÉBERT. All right.

(The list of Navy Department personnel authorized to be present is as follows:)

Name	Rank	Position
Thomas H. Taylor	Commander, USN	Dep. Dir. Investigations, Leg. Liaison A Secty Def (L and PA).
M. U. Beebe	do	Special Asst to Asst Sec Navy Air.
G. H. Kronmiller	do	Spec Asst (Res and Dev) to Asst Sec Nav Air.
J. D. Arbes	do	Office Navy Comptroller, Staff Officer, Budget and Reports.
R. E. Ward	Captain, USN	Naval Aide to Mr. Fogler (Asst Sec Nav).
A. L. Baird	do	Director Power Plant Div, Bureau of Aeronautics.
F. D. Pfotenhauer	do	Director Production Division, Bureau of Aeronautics.
W. L. Rees	Rear Admiral, USN	Assistant Chief of Naval Operations (Air).
S. R. Brown, Jr	Captain, USN	Aviation Plans Division, Office of Dep Chief of Naval Operations (Air).
Lloyd Harrison	Rear Admiral, USN	A Ch. BuAer.
Robert S. Hatcher	do	BuAer (Asst Chief R and D).
H. T. Dietrich	Captain, USN	BuAer Dir Plans Coord Div.
Mr. M. L. Smith	Civilian	BuAer Program Coordinator.
M. L. Royar	Vice Admiral, USN	Chief of Naval Material.
G. C Gill	Captain, USN	Office of JAG, Navy.
Ira H. Nunn	Rear Admiral, USN	JAG, Navy.
Mr. Charles S. Thomas		Sec Nav.
Mr. Raymond H. Fogler		Asst Sec Nav (Material).
Mr. J. H. Smith		Asst. Sec Nav (Air).

Mr. HÉBERT. Now, you may proceed, Mr. Secretary.

Secretary THOMAS. May I read my statement, then, for the record?

Mr. HÉBERT. Certainly.

Secretary THOMAS. Mr. Chairman and members of the committee: On Friday, January 28, 1955, I appeared before the House Armed Services Committee, explaining to that committee the Navy's 1956 program.

In reviewing the Navy's major procurement program at that time, I stated that the reduction in funds for new aircraft procurement from $1.9 billion in 1955, to $750 million in 1956, was due to contract cancellations and the reprograming of available obligating authority and the slippage of aircraft deliveries in certain models.

Upon being questioned about this large cutback in aircraft procurement, I explained that it had been caused by programing several years prior and that I, like others, was not happy with the necessity of having to make a cutback of this size.

I went on to say, however, that this condition has now, in my opinion, been corrected to a large extent and that all possible steps are being taken to further correct and improve it.

It was the above statement which caused this investigation.

Inasmuch as the necessity for these cancellations was caused long before my assumption of the duties of this office, I will first give you the facts as they have been related to me and then tell you what those of us who have now assumed the responsibility of administering this procurement program are doing to correct and improve it.

I will make no attempt to either criticize or justify this past program but, as I have stated before, merely give you the facts just as they have been related to me.

They are as follows: At the end of hostilities in 1945, naval aircraft production was immediately reduced to a minimum. The aircraft which were on hand were retained if they were usable and a foreseeable requirement existed. Because of this reserve stock of World War

II airplanes, aircraft procurement in the period prior to Korea was still very small. Production at that time for Navy use was [deleted by Navy].

Meanwhile, research and development on advance models was being expedited as effectively as possible with the resources available. Air speeds in the sonic and transonic range were becoming possible and concentration of effort was primarily placed on the transition from reciprocating to jet powerplants and on automatic types of electronic devices. The development of each of these areas of greatly increased possibilities also brought a multitude of new problems.

With the outbreak of hostilities in June 1950, requirements for aircraft jumped tremendously. At that time the Navy was operating only 6,000 planes. Few of them were modern; most of them were left over from World War II. There was tremendous pressure to build up the strength of the operating forces with modern jet aircraft.

Production schedules were accelerated. Supplemental procurement authorizations were issued to increase the fiscal year [deleted by Navy]. Planning and funding for fiscal years 1952 and 1953 were greatly increased.

By June 1952, 2 years later, operational aircraft in the [deleted by Navy]. During this period orders were placed for new aircraft at a rate about three times as fast as the rate of deliveries of new aircraft immediately prior to Korea. These orders included substantial increases in proven and successful [deleted by Navy].

These became the mainstay of operations during the latter part of the Korean period.

Mr. NELSON. May I ask you, Mr. Secretary, what is the F2H?

Secretary THOMAS. The F2H is a McDonnell fighter.

Mr. RIVERS. What is the F9F?

Secretary THOMAS. That is a Gruman fighter.

To give you some idea of the participation of the Navy and Marine Corps in the Korean war, those two units, from June 25, 1950, to July 27, 1953, flew a total of 346,487 sorties.

Mr. RIVERS. At that point, that was more than the Air Force flew?

Secretary THOMAS. I don't know. I don't think anybody realizes the tremendous amount of sorties that the Navy flew.

Mr. RIVERS. Yes, sir.

Secretary THOMAS. And most of them from carriers. They were carrier sorties.

Mr. RIVERS. That is why I asked that question. But I heard that even exceeded the Air Force.

Secretary THOMAS. Well, it is a tremendous record.

Mr. RIVERS. It is.

Secretary THOMAS. Procurement at that time also included substantial production orders for quantities of new aircraft which had been in the design stage only but which were badly needed for the fleet. These experimental planes were scheduled for production when the responsible aircraft companies stated that in their judgment the models were ready for production. It was considered at that time that these production promises were acceptable as justifiable risks even though development was incomplete and full range and demonstration tests had not been made. [Deleted by Navy.] Fleet squadrons operating in the Korean theater were seriously short of attack-type aircraft. In

fact, losses of this type in some months of 1952 were greater than new deliveries from the factories. It therefore became necessary to substitute the obsolete World War II Corsair fighter for this mission. [Deleted by Navy.]

A summary of the essential circumstances causing this major aircraft slippage or terminations in this period indicates the following as primary causes.

First, estimates of the time required to satisfactorily complete the development of engines, component equipments, and the airframes were too optimistic, both by the designers and producers and by the Navy. Probably the most important single factor was the unsatisfactory performance, and the resulting delays in delivery of new jet engines such as those mentioned above which the Navy purchased as Government-furnished equipment to be supplied to airframe contractors. While this transition from reciprocating to jet-type powerplants was of basic significance in modernizing the fleet, it also brought problems and difficulties which were not anticipated, and perhaps could not have been.

A second primary cause for these problems was the airplane-design difficulties incident to the very rapid increase in aircraft performance. Design, development, and production difficulties all played a part in these problem areas.

In any event, the final results were terminations of very substantial proportions. Approximately 1,000 aircraft which would have cost the Government slightly over $1 billion, or $1 million per aircraft, were terminated. The Bureau of Aeronautics estimates these termination changes for work already done and materials purchased will total approximately $227 million.

These terminations were necessary as they canceled out orders for aircraft which could not perform to specifications and carry out their originally intended missions.

These problem areas and their correction, and the production of new modern high-performance jet aircraft, have been of great concern during the past 2 years to those of us now responsible for administering this aircraft procurement program.

I would therefore now like to tell you just what we are doing in this respect.

Many factors, chiefly the greatly increased complexity of sonic and transonic aircraft and their components, made it apparent that previous policies in regard to development, testing, and production of these new models would have to be critically reviewed and revised.

This was done and through evolution the Bureau of Aeronautics FIRM policy was developed. FIRM stands for Fleet Introduction of Replacement Models, and is the policy in effect today.

FIRM, we believe, is a sound, efficient method of development, procurement, and introduction of naval aircraft.

It calls for: (a) A low rate of production of a new plane in the first 3 years, with all production planes going immediately into the test program.

Fleet delivery of planes is withheld until the entire test work on a new model is virtually completed and discrepancies and changes required as a result of tests have been made on the production line.

Thus, when planes are delivered to operational squadrons they are as nearly combat ready as possible, and will require no major fixes in the field.

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(*b*) A program in which various types of complex equipment will be produced on a pilot-line-production basis before they are selected for a specific aircraft installation. Attention is also being given to the matter of alternate or backup installations so that when serious developmental problems are encountered, a comparable item can be substituted without seriously retarding airplane schedules.

(*c*) The airframe manufacturer is being given increased responsibility for system coordination. It will be his responsibility to integrate and correlate the various related components, furnished either by the Government or the contractor into a completely coordinated system.

This procedure is particularly applicable to armament fire control, where it is necessary to integrate radar, instrumentation, and flight controls.

(*d*) Increased stress is being placed upon designing the initial article for quantity production and producing the early aircraft on tooling designed for production of higher quantities when and if the development of the model warrants such action.

Although this makes the initial phase of the program more costly, it is, in the long run, more economical. Tooling constructed for quantity production which will come later represents in large measure a recoverable cost. Such tooling can be supplemented or duplicated to accommodate any desired production rate.

The present policy of producing and testing a limited number of experimental model airplanes before scheduling them for large production orders is now the procurement policy of the Department of the Navy via the Bureau of Aeronautics.

Under this new policy, if another Korea should occur tomorrow, we would follow a very different policy in aircraft procurement from that of 1950. This policy would be, first, to accelerate production rates of proven models now coming off the production lines and keep those models in high-volume production until replacements of high-performance models are phased into the production.

Second, to accelerate tests and evaluation of improved models now flying so that they could be placed in volume production at the earliest practicable moment.

Third, to increase the tempo of development of new very high-performance types.

The effectiveness of this program will, in my opinion, be proven with the development, before high-volume production, of new models, such as the A3D—a heavy high-speed attack plane; the A4D—a small compact high-speed attack plane; the P6M—the new large fast seaplane; and others.

This new Naval aircraft procurement program is now under the administration of two exceptionally well-qualified men.

Mr. James H. Smith, Jr., the Assistant Secretary of the Navy for Air, has the research and development part of this program.

Mr. Smith has had a life-long experience in the aircraft field, both as a combat-carrier pilot during World War II and as a senior official of one of the world's largest airlines.

Mr. Raymond H. Fogler, the Assistant Secretary of the Navy for Material, has the contracting and programing responsibility and he is unusually well-qualified in this field, having in the past been the president of two of the largest merchandising concerns in the world.

Both of these men are conscious of the fact that, first, sonic and transonic speeds and the equipment necessary therefor is a rapidly advancing art; that while certain calculated risks must be taken, these can be programed on an orderly basis and the risks minimized.

These officials, as well as myself, also recognize the increasing importance of naval air as related to the modern naval aircraft carrier or floating airbase. I think it is generally recognized today that these modern aircraft carriers are vital to the offensive power of our military forces.

They are high speed, they are hard to locate, hard to destroy, and yet at the same time can range great distances, which causes the enemy to dilute both his defensive and offensive power.

They carry a heavy offensive striking power, which can be delivered almost any place in the world, using the seas as runways.

They are among our most potent weapons for either global or localized war.

We, the officials of the Navy, in recognizing the increasing importance of carriers, likewise recognize the necessity of developing as rapidly as possible the high performance airplanes necessary to complement these modern carriers.

I believe the necessary steps and programing are now being taken to accomplish this purpose, and I will ask both Mr. Smith and Mr. Fogler to give you any further detailed information that you may wish which can be given within the proper confines of security.

Mr. Chairman, we have a few charts we would like to show.

We would like to show in chart form, which we can do very quickly, what this new program is.

Then we will show you about five charts of the major contract cancellations when the contracts were originated, when they were canceled, and their numbers.

Mr. HÉBERT. Now, Mr. Secretary, before we get to the charts, let me ask you this.

This is in connection with your desire for the executive session because of the restricted information which you wanted to give us.

This statement which you have read I think clears up many points which a lot of people would have in their minds. And I am wondering in this particular statement, which was a very fine statement explaining the situation as it existed, and as it now exists—is there anything in this particular document that you would consider of such a nature that would be of assistance to the enemy in any manner, shape or form?

I am asking you for this reason. I think that it is such a document and such a statement that it would serve a very good purpose if it could be released to explain the position of the Navy, and also to clear away some of this mystery or perhaps misunderstanding which would naturally arise in the public's mind because of the nature of this very hearing and because of your remarks the other day in open session before the full committee.

Secretary THOMAS. Mr. Chairman, I think if you would allow us to make—there are some things in here that are restricted.

Mr. HÉBERT. That is why I asked the question.

Secretary THOMAS. I think we could make a few very minor changes and probably release it for you.

Mr. HÉBERT. With the few minor changes which you could make while we are in the process of this hearing, I think it would be wise to release this statement. Because—I would like to hear expressions from the other members of the subject, but my own reaction is that it would certainly help to clarify the situation, within the limitation of security.

Mr. RIVERS. Mr. Chairman.

Mr. HÉBERT. Mr. Rivers.

Mr. RIVERS. I gathered from your statement, which I thought was a very fine statement—pre-Korea, we had a lot of these reciprocating engine jobs. There wasn't any animus, there wasn't any feeling, for the need of this research, development, and testing.

Therefore, when Korea came you were projected into something where you didn't have the cataloging of the test capabilities or the potentialities of the plain, that you had to go in there without a final check.

But now under this pilot program, your research, development, and testing is going along with your minimum production; is that right?

Mr. HÉBERT. Now, 1 minute. I would like you to hold that question to the Secretary. I wanted to get expressions of the members of the committee on the suggestion of the release of the statement.

Mr. NELSON. Mr. Chairman.

Mr. HÉBERT. Mr. Nelson?

Mr. NELSON. Mr. Chairman, I think your suggestion is a very fine point. I think it is very important that we release all the information that we can.

As I heard the very fine statement read I could not for the life of me see anything that should be classified. I think it would be extremely beneficial to the committee if the Secretary points out things that he thinks ought not be released.

Secretary THOMAS. Well, the number of sorties, for one thing, comes out of a secret document, and I would want to clear whether we could release the number of sorties or not.

Mr. HÉBERT. It is up to you to strike out what you desire to strike out.

Secretary THOMAS. Well, I think, with a few eliminations, we can—we will not emasculate it all. Quite to the contrary.

(NOTE.—The statement of the Secretary as later released is shown in appendix A.)

Mr. HÉBERT. Well, will you have somebody release it?

Secretary THOMAS. Yes.

Mr. NELSON. Mr. Chairman, at the conclusion of the hearing, could we have the deletions that are made so we could understand what the Navy is deleting from this statement?

Mr. HÉBERT. I think so.

Secretary THOMAS. Sure, sure, definitely.

Mr. HÉBERT. Now, we will proceed with the questioning.

Mr. Rivers——

Secretary THOMAS. I would like to answer your question, if I may. I think we will show you on this next chart that we will do now the same thing that they did in 1950. Without committing for all the material, for all the components of subcontracting. We would do it just as fast without accumulating great cancellation cost, if you had to cancel out.

Mr. RIVERS. You wouldn't have a backlog of stuff you would have to cancel out in the event your projected calculation didn't work out?

Secretary THOMAS. That is right.

You see, we have the same end result, but we wouldn't have—before you get a proven model or at least far enough along to have good reason to think it is going to be a proven model, we wouldn't let all the material contracts and the subcontracting contracts and the fabrication and all that. Then when you cancel out it is a complete loss.

Mr. RIVERS. I appreciate that. I think it is a very fine thing. But at the same time, we want to put terrific emphasis on the testing along with production and with the research and the development.

Secretary THOMAS. Well, that is just what we are doing now.

Mr. RIVERS. Yes, sir.

That is what I waned to get straight.

Secretary THOMAS. We are putting more emphasis on it. You have better test facilities, too, that you have now.

Mr. RIVERS. That is right.

Secretary THOMAS (addressing aide). I think if you bring that over here and get the light. Can you do that, Captain? The light will be in everybody's eyes, there.

Mr. HÉRBERT. Now, Mr. Secretary, does the committee understand that the difference between the old program and the new program, is that under the program in the Korean affair when a plane became obsolete, in other words, complete production was stopped until the new plane was put into production, and under the present program you redesign or—what is the word?

Secretary THOMAS. I think there are two basic differences.

In other words, we stopped the production line of the F2H with the idea that we are going to get an advanced model.

The advanced model didn't come on time, and we had stopped the F2H line. So we had no backup line coming along at all.

Mr. HÉRBERT. But what you are saying now is that under the present program if there was another Korea or another conflct should occur that instead of stopping or halting any production of what was considered an obsolete plane you would continue and modify, I think the word is, your so-called obsolete plane while it was still on the line, to keep your pipeline going?

Secretary THOMAS. Yes.

Mr. RIVERS. If the chairman will permit: it is not obsolete, it is obsolescence. Because an obsolete plane would not be in production. An obsolescent plane may be.

Secretary FOGLER. I think we might say it is the best plane we have today operational.

Secretary THOMAS. Under this new policy if another Korea should occur today we would follow a very different policy in aircraft procurement to that of 1950.

This policy would be first to accelerate production rates of proven models now coming off the production line, and keep those models in high volume production until replacements of high performance airplanes came in.

Mr. BATES. Mr. Chairman?

Mr. HÉRBERT. Mr. Bates?

Mr. BATES. Mr. Chairman, I would like to say this is one of the most splendid statements I have seen on the very complicated problem, and it certainly explains the problem which existed in my mind.

And I have become particularly excited over your last remark concerning these charts which you are going to show us.

Secretary THOMAS. Yes, we would like to show you now, if we can, the new program.

Mr. HÉBERT. Just before you get to that, Mr. Courtney, you have a question?

Mr. COURTNEY. Mr. Secretary, as you describe these new programs, so we may be entirely clear on it for the record, you stated that in 1950, pre-Korea, the net replacement or the total number of available aircraft was insufficient. So what you did is ordered models, giving the number—the Grumman, McDonnell, and the Chance-Vought.

Those were what you would call proven aircraft.

Secretary THOMAS. That is right, if you are talking about the F9F and the F2H.

Mr. COURTNEY. I am talking about the F10F.

Secretary THOMAS. No, the F10F is not a proven model.

Mr. COURTNEY. Well, what are the models you referred to?

Secretary THOMAS. Of course, we brought a lot of planes out of mothballs to augment that.

Mr. COURTNEY. All right, you brought the planes out of mothballs and you used the models that had been developed and had been operated; isn't that correct?

Secretary THOMAS. That is right.

Mr. COURTNEY. In other words, you started reproducing them?

Secretary THOMAS. Well, or continued the production line.

Mr. COURTNEY. Continued the production line.

Secretary THOMAS. We didn't start reproducing them. We continued the production line. But some of the lines we discontinued in anticipation of advanced models which never materialized.

Mr. COURTNEY. Now, in your new policy, you state that you were going to continue with the production of proven models until you were satisfied to introduce new models. Wherein does that policy differ from what you did in the past?

Secretary THOMAS. Oh, well, it differs very materially. Because, in the past, for instance, the F2H: we discontinued that line in anticipation of a new model coming in.

The new model didn't come in on time and we had nothing.

We didn't have the F2H and we didn't have the new model.

Now, in the past program, on your new models which were still in an experimental stage, they hadn't been tested out, you let production orders and you are committed for the material, for subcontracting, for components, and when the model didn't work out you had all that.

And that is your $227 million cancellation.

I don't think you could have any more basic difference. I mean, there is a completely basic difference in the policy then and now.

Mr. COURTNEY. Assuming you were confronted with an immediate necessity of increasing your total number of planes, would you do any different than using the proven models that have been in production, than what was done in 1950?

Secretary THOMAS. Yes, very definitely.

Mr. COURTNEY. What would you do?

Secretary THOMAS. Well, we wouldn't cancel out a proven production line.

Mr. COURTNEY. And you would if necessary accelerate the production of the proven line?

Secretary THOMAS. Well, the ones—we would maintain the proven line and accelerate the production.

Mr. COURTNEY. To fill your requirements?

Secretary THOMAS. That is right.

Until we could phase in the production of new advanced models.

Mr. COURTNEY. Wherein does that policy differ from what you did in 1950?

Secretary THOMAS. I think there couldn't be any more basic difference.

As I say, for example, we cut out the F2H line. So we didn't have a line to continue producing a model.

The F3H didn't come on time. Therefore, we had neither the advanced model or the old model. And we are not letting now—if you had Korea now, we would not let production orders on all these advanced experimental models that we don't have sufficient information to go on. And I think under this program we would have a better production of proven models and we would save a tremendous amount of money in cancellation of contracts because we haven't let a lot of contracts at that stage, I don't think, you need to let.

Mr. HÉBERT. Mr. Nelson, are you through?

Mr. NELSON. Is this all testimony that he is going to bring out? [Chorus of "Yes."]

Mr. HÉBERT. Yes, I think so. Proceed, Mr. Secretary.

Secretary FOGLER. Mr. Chairman, may I make a comment in connection with Mr. Courtney's question?

Mr. HÉBERT. Yes, Mr. Fogler.

Secretary FOGLER. I think there is another factor which doesn't come into your question, and it is this.

It would be our intent not to let contracts for additional planes of new models until they had been tested and evaluated.

That, I think, is one of the key differences in what would be our intent. Not necessarily just the difference of keeping production lines going, but not letting production contracts for the hoped-for much better planes until they had been evaluated.

Mr. RIVERS. You never did that. You never did run an assembly line on X planes, did you, sir?

Mr. BATES. They sure did. He didn't but 5 years ago they did.

Mr. HÉBERT. Let's proceed.

Secretary FOGLER. It was my understanding that was done, yes.

Mr. RIVERS. It is the craziest thing I ever heard of.

Mr. BATES. That is the reason I asked the question in the committee.

Mr. HÉBERT. The committee will be in order.

TESTIMONY OF H. T. DIETRICH, CAPTAIN, UNITED STATES NAVY

Captain DIETRICH. I am Captain Dietrich, Bureau of Aeronautics, Plans Coordination Division.

This chart illustrates the program that we are following today for the procurement of new model aircraft.

On the bottom is the time scale in years. Up on this scale will be numbers of aircraft.

Each one of these symbols will indicate one aircraft and corresponding to the time scale in months the number of aircraft that would be delivered in 1 month.

Starting from the original go-ahead, over here, at zero time in years, we contract——

Mr. NELSON. Mr. Chairman?

Captain, is zero the time the aircraft goes on the planning board or the time you first start testing?

Captain DIETRICH. That is when we commit ourselves contractually. We commit ourselves on a contract, over here [indicating]. We get our first airplane here, at about 17 months later.

I might add here that this is a representative chart and the times will vary depending upon the complexity and size of the model.

We get the first one here at about 17 months. That is indicated by the star. Disregard this X here. The star, the first airplane delivered, which will go to the contractor for demonstrations.

The contractor in all cases has to take an airplane and, using his own contractor's pilots, demonstrate that that airplane is basically safe to fly and will perform within safe limits. That is the use we make of the first one.

The second one goes for the same thing.

By using two we get it done much quicker than we would have with one. And should we have an unfortunate accident, and only one plane, it is evident the serious setback that would be given to the program.

The third airplane in the program comes over a little over 2 years later. Note that this has gone on now for the first 3 aircraft, between 17 and 27 months. The third airplane remains at the contractor's plant for his further development and with our assistance, various improvements that can be made or have to be made.

That takes care of the first three airplanes, the stars.

The next 4 airplanes as indicated by the diamonds—we are still producing now at the rate, with the diamonds, of 1 per month. These next four aircraft are assigned to the Bureau of Aeronautics for test evaluation and development purposes, normally at Patuxent River. They are delivered over a course of 4 months.

The next group of aircraft, as indicated by the diamonds, we are now starting at a rate of two a month. We have been one or less a month up to this point.

The next seven aircraft are assigned to the Board of Inspection and survey for trials in accordance with naval regulations to prove the contractor's compliance with the terms of his contract.

After that, we go on and get into these green ellipses. The green ellipses are airplanes that will go into accelerated service tests, usually also at Patuxent River.

We use a quantity of these here, 12 or 13, depending on the model. And we bring in pilots from the fleet, plus the Patuxent River test pilots, who are experts, and fly those airplanes just as hard and just as fast as we can fly them in a period of about a month to 2 months.

We get the maximum amount of time on them we can, flying them day and night and 7 days a week, in the effort to bring out any possible bugs, errors or changes that might have to be made.

That would normally go on anywhere from 2 months up to 4 months during the time these planes are delivered. At the end of this period

here—and this is about 3 years, a little over—we will have the bugs out and at that point on we are ready to make deliveries to the fleets and are also ready to accelerate our production rate up to whatever number is determined to be necessary to meet our requirements.

Now that this schedule, this production schedule, is held very low here for a period of 2 years [indicating]. At any time during this period, during this time, when bugs develop—and they always do to a greater or lesser extent—we can get the fixes, the corrections for those bugs into these early models and we have not had a high acceleration rate, built a lot of airplanes, that we have to go back into and modify.

We hope, and will, get away from large modification lines with this program.

Mr. RIVERS. You could only do that in peacetime. You couldn't do that in wartime.

Captain DIETRICH. To be realistic about it, it would go a little faster in wartime. But there is no use trying to build something until you know what you are building, even in wartime, except on a basis of calculated risk.

Mr. RIVERS. That is right.

Mr. NELSON. Mr. Chairman.

Mr. HÉBERT. Mr. Nelson.

Mr. NELSON. Captain, you have said zero is the time when the Navy commits itself contractually? What is the status of the airplane at that time?

Is it just on the drawing board?

Captain DIETRICH. It is normally in the design stage; yes, sir.

Mr. NELSON. No model has been constructed?

Captain DIETRICH. No, sir.

Mr. NELSON. It is a design submitted to the Navy for its approval, and approving the design you get a contractor to build a model of the airplane; is that correct?

Captain DIETRICH. Yes, sir. The first model of an airplane built is what we call a mockup, which is a wood and paper, full size duplicate or replica, of what we are going to build in the future.

We do that to——

Mr. NELSON. Does that go through wind tunnel tests and things like that?

Captain DIETRICH. Oh, the wind tunnels test goes on long before we get a mockup in some cases.

Mr. HÉBERT. Mr. Hess?

Mr. HESS. Captain, let me ask you how much time does elapse until the plane actually gets to the fleet, from the time it is put on the drawing board? Now, you have there about 3½ years?

Captain DIETRICH. Yes, sir.

Mr. HESS. But there is an additional period of time prior to that zero, is there not?

Captain DIETRICH. No, sir.

Mr. HÉBERT. Well, it is on the drawing board.

Mr. HESS. Well, it is on the drawing board. You enter into a contract at zero.

Captain DIETRICH. That is right, depending on how long it takes a contractor to come up with a design and how long it takes us to evaluate it and make our decision that we wish to go into it.

Mr. HESS. Can't you give us some idea as to how long it might take? What has been your experience?

Captain DIETRICH. Admiral Hatcher?

Admiral HATCHER. Well, if you have an experimental contract initiated before that, you could have a period of about a year, I should say, before this go-ahead on the production program.

Mr. HESS. When you first get the idea in your head to put it on the drawing board——

Admiral HATCHER. It will take about a year, sir.

Mr. HESS. Then you would have an elapsed time—you would have 4½ years then before the plane will actually get to the fleet?

Admiral HATCHER. Yes, sir, I think so.

Captain DIETRICH. From the time it was a gleam in someone's eyes, yes, sir.

Mr. HESS. Themselves.

Secretary THOMAS. Of course, we have to recognize, if you have a war, you will expedite all of these different stages as much as you can.

Mr. HÉBERT. Oh, that is understood.

Mr. HESS. Yes.

Secretary THOMAS. But against that, there is no use to go in and get production orders and commit for materials and for components and subcontracting when the thing is not proven out at all.

Mr. BATES. That is right.

Secretary THOMAS. I mean, that is where your big costs come in.

Mr. NELSON. Mr. Chairman.

Mr. HÉBERT. Mr. Nelson.

Mr. NELSON. I would like to ask this question generally, Captain. I assume that the contractor who is building this new model is also building a proven model. In other words, that would be usually the case in the Navy, wouldn't it?

Captain DIETRICH. It would usually be the case; yes, sir. And might I point out there that this is a new aircraft, not a development or slight modification of a previous aircraft.

Mr. NELSON. I understand that. But are you in your testimony going to develop how the manufacturer who is presently producing, mass producing a proven type of aircraft, is at the same time going to machine tool in order to produce the new model? Will you develop that in your testimony?

Secretary FOGLER. May I comment on it right now?

Mr. NELSON. Yes.

TESTIMONY OF R. H. FOGLER, ASSISTANT SECRETARY OF THE NAVY (MATERIAL)

Secretary FOGLER. That really is a good question, and sometimes I think good questions have no completely good answers.

Theoretically—and I think this may be in the back of your mind—the contractor is going to be very much interested in continuing his production of the proven airplane for which he is getting currently paid. Actually, though, and this is a difficult field to bring it in, there is a competitive element that gets into the picture. He is not only the airplane builder who would like to be building and developing and selling to the armed services a new model. In his engineering organization ordinarily he will have people who are very much interested in that, just as engineers and research people.

Now, there will always have to be exercised good judgment on the part of the procurement officers in dealing with the kind of companies who will work with us cooperatively in not only producing what is available today but looking forward with us to what we need tomorrow. And when greatly increased demand comes, as you know from previous wars, greatly increased facilities have to be provided. And for the same manufacturer, if the old model is to be continued indefinitely, to produce the new model, he will have to have additional facilities.

If, on the other hand, the new model reaches the place where it can replace the old model, he then can gradually phase out the old and phase in the new.

Mr. NELSON. Well, then, Mr. Fogler, the Navy has made plans so that if you reach an emergency and a certain manufacturer has to mass produce in a hurry a proven model, then he will have to establish new facilities and put in his new machine tools in order to produce the new model, so that when it is discontinued, he immediately can go into mass production on the new model.

Secretary FOGLER. No. There are two more factors: One, the Navy has a limited number of facilities in being in addition to those being used for current models or that would be used for current models. Actually, too, in this—this is a new factor in this picture compared to what at one time existed, and I have to comment only on what at one time existed from statements that have been made to me.

These models, from that 2 to 3 years, are produced on production machinery. They are not handmade. So there is a limited production line established before you reach that 3-year period.

(Nods.)

Secretary FOGLER. Which means that the acceleration can be relatively rapid and it has been planned previous to that time.

Mr. NELSON. Have the machine tools all been acquired by the time——

Secretary FOGLER. Not all. That will vary, and there is where there must come into the picture the field of judgment as to whether or not to have a large number of machine tools. But it is basically on a production line that those relatively few in those 2 or 3 years that are produced——

Secretary THOMAS. Mr. Nelson, I think there is another answer to that. Not all plants are operating at their full capacity from the production line or the machine tools. Now, if you get in a war emergency, you go from a 1-shift basis to a 3-shift basis, and you can operate 2 lines under those conditions where you operate 1 line now. Now, that is a tremendous factor, in going from 1 shift to 3 shifts, in itself. The whole thing will be expedited if you get into war, the time element.

Mr. NELSON. The Navy has taken into consideration that if we hit an emergency you need full-time mass production of a proven model at the same time you are developing this ship, and you buy it from one contractor—you have made plans to see that he has the additional facilities to provide the new model.

Secretary THOMAS. Well, that is in your mobilization planning, because your mobilization planning takes in your mobilization requirements.

Mr. NELSON. Thank you, Mr. Chairman.

Mr. HÉBERT. All right, Captain, continue.

Secretary THOMAS. Can we show you now some of these charts on the airplanes that were canceled, to show where this big cancellation cost was in?

Mr. HÉBERT. Yes; I think we would like to see that. I think, Mr. Secretary, when you demonstrate that, where they had been canceled, it would be to the committee's benefit to explain to them how that program, which I understand is a program that you have abandoned, compares with the present program or your present intent today.

Secretary THOMAS. Yes, sir.

Mr. HÉBERT. That was in connection with the question counsel was asking.

Secretary THOMAS. I think we can make that very clear on this.

Mr. HÉBERT. I see. And how you would not do it as it was done then.

Secretary THOMAS. Yes.

Mr. HÉBERT. All right, Captain.

Captain DIETRICH. This chart illustrates the production planning and scheduling for a given model from its inception until its demise. The A2D, to refresh your memory, is a turbo-propeller-driven attack airplane that was conceived as the replacement for the Douglas AD series. This also is or was to be manufactured by Douglas. Back in 1950—I might quote the legend. The light gray is actual contracts that were in effect. The green, always extending out beyond the light gray, is what we were planning at the times indicated. The red is airplanes that we actually accepted.

Back in 1950 we had an actual contract for 10 of these A2D's. They were scheduled for delivery in this period.

In January 1951, as a result of Korea and other things, we increased the number on contract to 91 and further planned on another 250. The other 250 were not placed on contract at that time.

That holds right on down through 1953, until we hit a peak, where at one time we had 432 of these aircraft actually under contract or planned for, of the 432, 232 being actually on contract and the others were planned.

Troubles became apparent. And down here, in September of 1953, we found that the airplane just was not developing as it should, for engine and other reasons. So we started cutting it back in sizable quantities. We had previously actually cut it back to a certain extent. We cut it back to 10 aircraft in September of 1953. [Deleted by Navy.]

We hung onto those ten until in the fall of 1954 we finally terminated the last group of the A2D, and the project is now completed.

Mr. HÉBERT. Now, under the plan which you just described to the committee, you would have discovered the shortcoming of the plane before, than you did under this program.

Captain DIETRICH. Yes, sir.

Secretary THOMAS. You see, Mr. Chairman, in this one all those contracts that are let there—you see, they are very sizable contracts. They got up to 400—actually, contracts were let for how many?

Captain DIETRICH. Actual contracts were 232, sir.

Secretary THOMAS. Well, actual contracts were let for 232. The materials were bought, fabricated, subcontracting, component parts, and

all that done, before the airplane was proven. It didn't prove. You got to cancel all that out.

Mr. HÉBERT. That is the point I am making. Under the present plan, that wouldn't have happened.

Secretary THOMAS. Under the new plan this wouldn't have happened.

Mr. HÉBERT. Now, that happened under the stress of an emergency, that you did expand and project your program, even under your present program, with the stress of that emergency having an impact upon your projection of your program.

Secretary THOMAS. You still wouldn't do it until you are much further along.

Mr. HÉBERT. You still would not do it, even under the stress of an emergency?

Secretary THOMAS. No, you wouldn't have to. Because you don't have to commit for all your materials, your subcontracts and your components and all, that early in the stage.

Mr. HÉBERT. And you would utilize your present planes?

Secretary THOMAS. Well, you would utilize your present planes, and you would push the development and proving of that plane.

Mr. HÉBERT. But you would not—excuse me.

Secretary THOMAS. Pardon me.

Mr. HÉBERT. Excuse me, sir, so I understand it correctly. But you would not project the full power of your contract until the plane had been proven?

Secretary THOMAS. That is right.

Mr. HÉBERT. Under any circumstances.

Secretary THOMAS. That is right, and make all your commitments with material and everything else.

Now, let us show you the F10F.

Mr. HÉBERT. All right, let's see.

Secretary THOMAS (addressing aide). Show him.

Mr. RIVERS. Let me ask you before you leave there, Mr. Chairman.

Mr. HÉBERT. Mr. Rivers.

Mr. RIVERS. You have given up this plane as a bad job. It just didn't come out right. So every nickel you put in it, as far as—is just lost.

Secretary THOMAS. That is right.

Mr. HÉBERT. No, not every nickel is lost. Your experience is worth something.

Secretary THOMAS. You don't have to go beyond that with a lot of contractors, where you bought a lot of materials and subcontracting and components and lose that in addition to all your testing.

Mr. RIVERS. Yes, sir.

Mr. BROOKS. Let me ask you this: To cancel all of those, how much did it cost the Government?

Secretary THOMAS. As I said in the statement, we canceled 1,000 planes, of roughly $1 billion, $1,068,000,000, to be exact, and as near as we can figure—we won't know these costs yet for a long time because we are in the process now of trying to negotiate these contract cancellations to prove their costs and the like.

The Bureau of Aeronautics says, as near as they can figure it, it will be about $227 billion.

Mr. HÉBERT. Billion dollars?

Secretary THOMAS. I mean million dollars.

Mr. RIVERS. Million dollars.

Mr. BROOKS. $227 million.

Secretary THOMAS. Now, under this program you wouldn't have to lose any money.

Mr. BROOKS. You didn't lose all of that in this one program?

Secretary THOMAS. Pardon me?

Mr. BROOKS. $227 million wasn't lost in this one program?

Secretary THOMAS. No, in the cancellation of your thousand planes.

Mr. BROOKS. Are any of those planes still operating, the ones that you canceled?

Secretary THOMAS. As experimental. I mean, you are still experimenting with them.

Mr. BROOKS. Are you flying any of those in red? Are you flying them now in service?

Secretary THOMAS. No.

Captain DIETRICH. There are 2 or 3 of them flying that have been bailed to the contractor for further testing.

Mr. BROOKS. So other than the experience you got in that particular job, you have lost that without any results?

Secretary THOMAS. Well, and you lost the materials that have been fabricated and a lot of the costs that they had contracted for on these other contracts that you didn't need to have lost.

Mr. BROOKS. Isn't that figured in the $227 million?

Secretary THOMAS. That is right.

Mr. BROOKS. Materials and all.

Secretary THOMAS. That is right. But I say you didn't need to have lost that. Let's take a look at the F10F.

Secretary FOGLER. May I make a comment, Mr. Chairman?

Mr. HÉBERT. Mr. Fogler.

Secretary FOGLER. Mr. Brooks, the estimated cost of this cancellation is one of the heaviest—that is one of the reasons we are showing it—and it is estimated at $92 million.

Mr. BROOKS. $92 million?

Secretary FOGLER. Yes.

Mr. BROOKS. You take a loss on that?

Secretary FOGLER. On this one cancellation?

Mr. BROOKS. Yes.

Secretary FOGLER. It is one of the kind of things that doesn't make Secretary Thomas happy.

Mr. HÉBERT. That is one of the unhappy moments he had?

Secretary THOMAS. Yes, that is one of them.

Mr. HÉBERT. Mr. Nelson.

Mr. NELSON. Mr. Secretary, do I understand now that under this new program of yours, in the event of an emergency you will immediately start mass production of proven models?

Secretary THOMAS. Yes.

Mr. NELSON. And that your development of new models will be—in no way be allowed to interfere with the mass production of a proven model?

Secretary THOMAS. Oh, no, we would expedite the development of new models just as fast as we can.

Mr. NELSON. Without interfering with the mass production of the proven model?

Secretary THOMAS. Yes.

Secretary FOGLER. I think, Mr. Congressman, you wouldn't want us to sit here and assure you that some expedited action wouldn't be taken in event of an emergency.

Mr. NELSON. Expedited action on new models?

Secretary FOGLER. Well, to try to telescope some of these things, but to retain the principle and to be sure that we did not get into heavy expenditures without proven models.

Mr. NELSON. What I dislike very much to see, as I believe I did during the Korean war, is mass production on proven models started and then the models held up for modification, so there was no mass production. Didn't that really happen during the Korean war?

Secretary FOGLER. I think it did.

Mr. NELSON. But your program would prevent anything like that happening.

Mr. HÉBERT. Now, Mr. Rivers.

Mr. RIVERS. Before you started on the Gruman, I remember in the old days of the Naval Affairs Committee that that is the one company that took all the expense on the research and everything, and they delivered a plane to the Navy without costing a nickel for the research and the experimentation, and of all the companies in the United States, this company stood out as the company to do all that, to withstand and absorb all those expenses, before they first gave the Navy a finished product, and to my way of thinking it is the best company in the books.

Mr. HÉBERT. Mr. Secretary——

Secretary THOMAS. May I answer that one?

Mr. HÉBERT. Yes.

Secretary THOMAS. It is a good company. There is no question about that. And it certainly is one of the Navy's prime contractors. But prior to World War II all the companies operated on that basis. They developed all their own experience.

Mr. RIVERS. None of them had the record of Gruman.

Mr. HÉBERT. Wait a minute.

Secretary THOMAS. You had some good companies. They developed their own models with their own money.

Mr. RIVERS. That is right.

Secretary THOMAS. And they took the chance they would get a production order.

Mr. RIVERS. That is right.

Secretary THOMAS. That is where your real competition comes in.

Mr. RIVERS. There is an old saying that goes about, that Gruman and North American never made a bad plane, those two companies.

Secretary THOMAS. Of course, Douglas is a good reliable company.

Mr. HÉBERT. Mr. Secretary, I want to revert back to our difference in the two programs. One of the biggest factors in the New Look production program is that under the old one you let huge contracts, and under the new program your contracts are not as large, that is, you let them in smaller quantities, is that correct?

Secretary THOMAS. Yes, until you have an airplane.

Mr. HÉBERT. Until you have the proven aircraft.

Secretary THOMAS. That you have either proven or so proven you can afford to take the risk of it.

Here is a good example of it, right here. Here is one where we let a lot of contracts, put a lot of money in material and the like, and never got anything out of it.

Mr. HÉBERT. All right.

All right, Captain.

Captain DIETRICH. The next model is the F10F1–1, to be produced by Grumman. The F10F was designed as an all-weather, high-performance fighter, to be able to fly day or night, any visibility, no visibility.

Mr. NELSON. Is that a two-engine jet, Captain?

Captain DIETRICH. It is a single-engine jet, originally built around the J40 engine.

Mr. HÉBERT. Now, this is under the old program, Captain?

Captain DIETRICH. Yes, sir.

Mr. HÉBERT. All right, let's continue.

Captain DIETRICH. Back in July 1950 we were planning on buying 30. We had none actually on contract right there at the time Korea happened. Here is the original start of Korea when we were having all our troubles. So by January 1951 or slightly prior thereto, we actually placed 12 F10F's under contract and were planning on a further quantity of 123.

By October, later on in that year, about 8 months later, we had increased the quantity on contract to 82 and were further planning on 192 additional for a total of 274 of them on contract or planned for.

Mr. HÉBERT. May I interrupt there, Captain, again? You increased the projected number under contract on two occasions before the plane was proven?

Captain DIETRICH. Yes, sir. The plane actually flew right here [indicating], the first experimental model.

Mr. HÉBERT. And under the present system you would not have placed those two new orders because the plane would not have been proven, is that correct?

Secretary THOMAS. That is right.

Mr. HÉBERT. All right.

Mr. BROOKS. Why did you increase it before you knew what you were doing——

Secretary THOMAS. Well, that is the question.

Mr. BATES. The Captain wasn't even there in those days.

Mr. HÉBERT. I know. Explain to Mr. Brooks, because it is a good question.

Mr. BROOKS. I understand he had an old program and a new program. But why were we so slow in devising a program that would check on these?

Captain DIETRICH. We ran into difficulties all the way through our program that we had not anticipated. When the programs were originally conceived, they were thought to be sound. We are going through this transsonic area and into the sonic area, and it has posed problems that we didn't know about until we got into it.

Secretary THOMAS. Captain, that doesn't answer the question, though.

Mr. HÉBERT. That doesn't answer the question, either, Mr. Secretary.

Secretary THOMAS. The question is, Why did we let contracts at a stage where we had no real prospects of a proven model?

The answer to that, Mr. Brooks, is you shouldn't have and you don't need to, and under the present circumstances, you wouldn't.

Mr. HÉBERT. Under the present program.

Secretary THOMAS. That is right.

Mr. HÉBERT. Now, you were not responsible at that time, is that correct?

Secretary THOMAS. No. You see, that was canceled out in 1953, in January of 1953. So that was prior to our time.

As I say, we are not trying to criticize or lay the blame on anything. But we think that this is very obvious, that it is not sound judgment to let a contract for a plane way in advance, before you have any idea whether you have an airplane.

Mr. BROOKS. Certainly not in time of peace like this. It is obvious there.

Secretary THOMAS. Well, even in wartime——

Mr. BATES. Even in wartime.

Secretary THOMAS. There is no point to do it. Because then what you do, you take a tremendous amount of materials, you fabricate them, and they are not of any use to anybody else, and you wasted all that material. So you better get a proven model.

Mr. HÉBERT. The committee understands your position, Mr. Secretary. And neither is the committee in a critical mood, except that we want to know the facts and want to know how we could profit by experience.

Mr. BATES. That is all.

Mr. HÉBERT. The only way we can know if you are profiting by experience is to bring out these facts, that is all.

Secretary THOMAS. Yes.

Mr. HÉBERT. That was the purpose, I think, of Mr. Brooks at that time.

Mr. BROOKS. Yes.

Secretary THOMAS. We can show you the others, but they are all like this, I mean where you let the contracts far in advance.

Mr. HÉBERT. It is typical.

Well now, would you do the same thing, without going into detail as you did, Captain, in the other cancellation contracts, so they will be in the record?

Mr. BROOKS. How much did you lose on that, Mr. Chairman?

Mr. HÉBERT. That is right.

Secretary THOMAS. $28 million.

Mr. BROOKS. $28 million on that.

Mr. HÉBERT. Now get the next one. Get each contract and the losses we are talking about.

Captain DIETRICH. The next one I have here is the F7U/A2U. The F7U was a fighter by Chance Vought, and the A2U was an attack version or was to be an attack version of the fighter, with only very minor modification, to be produced by the Chance Vought Corp.

Starting back in 1951 we had 28 on contract. We were planning an additional quantity of 212. We increased the number on contract here in 1951, 240–175; dropped it down, and upped it back up again.

Out in here we were starting to accept acceptances. [Deleted by Navy.]

The A2U was terminated in its entirety last fall because it did not pan out. It became heavier than its fighter counterpart. The engine did not develop, and last fall, after a very critical review, we terminated it.

Mr. NELSON. Mr. Chairman——

Mr. HÉBERT. Mr. Hess.

Mr. HESS. Let me ask: I noticed on all of these charts, on your column of totals there, that you build up to a point and then you suddenly go down again. Now, on this chart you start with 240, then you go up to 531, and now you go back to 294, then you go up to 400, then back to 294, then up again to 338, and finally, way down below there, you are up to 593 again, and then you start dropping off. What is the reason for that? Were you changing your minds so often?

Captain DIETRICH. Unfortunately, sir, these totals here have both the contract and the planning figures.

Mr. HESS. I realize that.

Captain DIETRICH. What we were thinking about but never actually obligated.

Mr. HESS. You were changing your mind constantly, then.

Captain DIETRICH. Yes, sir; and I think——

Mr. HESS. Every 6 months. At one time you would go up and say, "We need more," and 6 months later you would say, "No, we don't need any more."

Captain DIETRICH. The more times we changed our minds in the planning before we actually put the money on the line on a contract, the better the final contract is going to be.

Mr. HESS. Yes, but you are continuing to put the money on the line there.

Captain DIETRICH. There is an actual cutback in there on what was on contract.

Mr. HÉBERT. How much did you lose on that contract?

Secretary THOMAS. On the A2U it was $83 million.

Mr. HÉBERT. $83 million.

Secretary THOMAS. On the A2U. Now, you didn't need to lose $83 million on it.

Mr. RIVERS. Let me ask you this question, then.

Mr. HÉBERT. All right, Mr. Rivers.

Mr. RIVERS. That couldn't coincide with the termination of the fiscal year, could it?

Captain DIETRICH. It might. I can't say specifically.

Mr. BROOKS. It was January. It couldn't have been.

Mr. HESS. July.

Mr. BROOKS. Or July there.

Mr. HÉBERT. Mr. Nelson.

Mr. NELSON. Captain, how many models of the A2U did you accept delivery of before canceling?

Captain DIETRICH. We never got any at all.

Mr. NELSON. And how many of the F7U?

Captain DIETRICH. [Deleted by Navy.]

Mr. NELSON. Now, could I ask you, Captain, what type of aircraft has taken the place in your planning of these contracts that you have canceled?

Captain DIETRICH. [Deleted by Navy.]

Mr. HÉBERT. All right. Let's have the next one, Captain.

Secretary THOMAS. That is your proven models.

Captain DIETRICH. The next chart is the F3H, an all-weather fighter, that is being built by the McDonnell Aircraft Co. in St. Louis. This, incidentally, was in competition, more or less, with the F10F and has stayed in the program where the F10F, that we talked about two charts ago, was taken out.

Back in January of 1951 we were planning on buying 12 of them. We hadn't placed any of them actually on contract. But August of that same year we had 150 actually on contract in one source and 100 more in another source. This was one case where we were going to a second source for production.

Mr. HÉBERT. How much did you lose on that one?

Captain DIETRICH. Have you figures on the F3H? I understand that was $10 million.

Mr. HÉBERT. Oh, that was——

Captain DIETRICH. This program has not been entirely terminated.

Mr. HÉBERT. You are terminating it?

Captain DIETRICH. We cut it back.

Mr. HÉBERT. Cutting it back?

Captain DIETRICH. We cut it back last fall.

Mr. HÉBERT. All right. Let us have the next one.

Mr. NELSON. Do you plan to develop that plane?

Captain DIETRICH. Yes, sir. [Deleted by Navy.]

Mr. BROOKS. You may eventually get your money out, then?

Captain DIETRICH. Yes, sir.

Mr. CUNNINGHAM. Mr. Chairman, I would like to ask a question right there.

Mr. HÉBERT. Mr. Cunningham.

Mr. CUNNINGHAM. In all of these cutbacks or terminations your real purpose is to go ahead and save money, so you won't lose money?

Captain DIETRICH. We are not going ahead to buy an airplane that doesn't perform the way we want it to perform.

Mr. MILLER. Is this one going to perform?

Captain DIETRICH. Yes, sir.

Mr. CUNNINGHAM. You are not sure of any of them performing until you are finished?

Captain DIETRICH. I am not sure.

Mr. MILLER. You are not sure whether you will lose 10 or 20 million dollars.

Captain DIETRICH. No. I hope we don't lose it.

That is the last one of the production charts. Those are the major programs.

Mr. RIVERS. Did Chance Vought build the F4U?

Captain DIETRICH. The Chance Vought built the F4U.

Mr. RIVERS. That was a failure when the Air Force had it, wasn't it?

Captain DIETRICH. No, sir. Thank Heaven, we had the F4U in Korea.

Mr. RIVERS. I said it was a failure when the Air Force had it. The Navy developed it.

Captain DIETRICH. I don't think the Air Force ever had the F4U.

Mr. RIVERS. They turned it down and said it was a bad job, and the Navy took it and made the best fighter of it.

Captain DIETRICH. They might have turned it down. [Deleted by Navy.]

Mr. HÉBERT. Now, Mr. Secretary—is that your program of the losses, Captain?

Captain DIETRICH. Yes, sir.

Mr. HÉBERT. Now, Mr. Secretary, suppose you tell the committee about your current program.

Secretary THOMAS. Well, the current program is, as we explained there on that first chart; that is, you get your 3 X models first and they are tested first in the contractor stage, then you get your 4 models that go into further test stage, then you get 7 models that go in, and then you bring your flight test pilots back and they test it, and then when you get to that point where you get a produceable airplane and an airplane that is acceptable, then you go into your contract.

Mr. HÉBERT. That is correct. That was on the first chart.

Secretary THOMAS. Yes.

Mr. HÉBERT. Now, how is that program working today?

Secretary THOMAS. I think it is working all right.

Mr. HÉBERT. You are happy about that program?

Secretary THOMAS. Yes. I mean, that is the way to do it. This program, as I say, has been developed by people who I think are very competent, Mr. Smith and Mr. Fogler, who had background in air and in materiel and in procurement and the like.

Mr. HÉBERT. And under the plan and outline which you gave the committee, you are progressing satisfactorily?

Secretary THOMAS. Yes.

Mr. HÉBERT. Any noticeable slippage? We are going to go back to the use of that word.

Secretary THOMAS. There is some slippage, yes. We went to the manufacturers a year ago, or I guess a year ago last June, and got them to reorganize or reprogram their schedules and to bring them up to date where we would be assured there would not be slippage, and there has been slippage, because of delays in the manufacturing stages.

Mr. BATES. There are bound to be some of them.

Secretary THOMAS. Mr. Bates, there is bound to be, but after all we have to push it.

Mr. BATES. You have to keep after them.

Secretary THOMAS. You have to keep after them.

Mr. HÉBERT. Mr. Brooks.

Mr. BROOKS. Percentagewise, how far are we behind in production there?

Secretary THOMAS. I think that is a hard one to answer, Mr. Brooks, because I don't know where we are starting on, that is the only thing. If you go back and start on these original programs that we show you here, we are way behind. If you take——

Mr. BROOKS. We are behind. How far, would you tell the committee, we are behind on it?

Secretary THOMAS. Well, as I say, behind from where? From your start of 1950, these contracts that we have discussed?

Mr. BROOKS. From your program for production, how far are you running behind?

Mr. CUNNINGHAM. You are not running behind at all for your program?

Secretary THOMAS. Well, the program that we have set up now and our reprograming and rescheduling, there is some slippage in it. Can we tell them exactly what it is?

Secretary SMITH. I think it is very hard to describe in percentage. Because what has happened in some cases is that we have substituted an airplane of less quality for one we had expected to get. So we might be getting a delivery of an airplane today which would not appear to be a slippage, whereas, it is a slight slippage in quality.

Mr. BROOKS. You are getting an inferior plane and you are not getting the number that you anticipated. So your program has been in some trouble in that respect. Now, how much trouble are we in on that?

Secretary THOMAS. Well, we have shown it here pretty much.

Mr. BROOKS. You have shown us what you canceled out, but you haven't shown us what has been produced.

Secretary THOMAS. Well——

Mr. BROOKS. You are not satisfied with the production now, are you?

Secretary THOMAS. Well, I don't think—that is a hard way to put it. Because what we had before—we go back to 1950–51—they let at that time contracts on advanced model airplanes. Those contracts did not materialize. We never got the airplane. Now we are continuing to produce the best airplanes that we have, which were good airplanes. The F9F series of Gruman, for one thing, and that type of airplane. Now, those are good airplanes, but they don't have the performance that these airplanes on the drawing board had and which never materialized.

Mr. BROOKS. Let me ask you then this way: I don't want to be arbitrary in any way, but how would you tell the committee the program is at the present time, outside of saying there is some slippage?

Secretary THOMAS. Well, I will tell you that the program today—We have set up realistic schedules, delivery schedules. We set it up on good airplanes, and we are producing on that basis.

Now, we have also in advance some very advanced airplanes. We have had the A3D, which is a heavy attack plane, a highspeed airplane. [Deleted by Navy.]

Secretary THOMAS. [Deleted by Navy.] It looks like it has a great future to it. Those are going through these early testing stages. That will be coming up, and we think it is a good plane. But we are not going to make a lot of contracts and spend a lot of money until it is a proven plane.

We have the A4D, which is a light attack plane.

Mr. BROOKS. To put it another way, would you say that the Navy air program is in serious trouble?

Secretary THOMAS. No, sir.

Mr. BROOKS. It is just a minor matter that you can work out?

Secretary THOMAS. I don't think it is in trouble from that standpoint. It is not serious trouble, and I don't say it is in trouble. I say that the naval aircraft program today is a realistic program now. I think there is real realism in it.

Secretary THOMAS. Mr. Smith would like to talk.

TESTIMONY OF J. H. SMITH, ASSISTANT SECRETARY OF THE NAVY (AIR)

Mr. HÉBERT. Mr. Courtney, you want to ask a question?

Mr. COURTNEY. Mr. Secretary, on that point, the question of an emergency always arises, and may I refer to your statement, the Department's statement, your statement of the 27th. I note you make reference to the tooling, what might be called advanced tooling.

Secretary THOMAS. That is right.

Mr. COURTNEY. That would be at the very heart of the program you are now undertaking, so you could not be caught in an emergency, is that correct?

Secretary THOMAS. That is right. Your heavy tooling would be done in advance with these experimental models. Now, that is not a heavy cost compared with committing for all your material, your subcontracting and your components.

Mr. COURTNEY. Well, isn't that the heart of the program, Mr. Secretary?

Secretary THOMAS. Yes. And that is recoverable, I mean a great part of your heavy tooling. You can use that for something else.

Mr. RIVERS. What is the hottest plane you have in production today?

Secretary THOMAS. What is that?

Mr. RIVERS. Who makes the hottest plane that the Navy has in production?

Secretary THOMAS. I would like to have Mr. Smith talk about that.

Secretary SMITH. I think we are discussing quantity here, both in numbers of airframes and numbers of dollars. If I could spend a few minutes here talking about quality, I think it would be helpful to the committee.

Obviously, what we are striving for is what Mr. Rivers has called the hottest airplane. That is, we have to have the best airplane to do the job because the second best isn't good enough.

Mr. BROOKS. That is right.

Secretary SMITH. So if we are getting large quantities of second-best airplanes, we are not doing our job at all. We have been striving to get the best airplane available for the particular missions assigned to us, and I think the Navy is coming along pretty well in that field. If we devote all the funds that you give us for research toward exploring the areas in which we know we have to make developments.

One of those, which I consider the showiest one, is the maximum speed of the airplane. It is not necessarily the key to the success of the airplane at all, but it is usually used. Now, our F4D, which is back there somewhere—and someone can show it to you—has the world's speed record.

Mr. RIVERS. That is the Douglas?

Secretary SMITH. This is the carrier-based fighter which is coming into being now. This airplane is flying, and this we expect to have in the fleet reasonably soon. So far as high speed is concerned, that is, the combination of range and speed, airplanes such as the Grumman Cougar, 3 of those flew from San Diego to New York the other day in 3 hours and 24 minutes.

Mr. HESS. Three hours and twenty-four minutes?

Secretary SMITH. Yes, sir.

Another very important characteristic we must build into our airplane is the ability to climb fast. In other words, we must get the airplane from a standstill, that is, where it is just sitting on the ground, up to a fighting altitude quickly. The FJ3, a North American carrier fighter, the other day, from a standstill on the ground, got to 10,000 feet in 83 seconds.

Mr. RIVERS. That was right down here at Patuxent, wasn't it?

Secretary SMITH. Yes, sir.

Those are the things we are striving for. And I think our research is getting us into those areas rather rapidly now. And I think the production is going to come along pretty well.

We have told industry very frankly that we are not satisfied completely with some of their work. We want to see a greater sense of urgency. We want to see better engineering from them. And I think they have responded with the most cooperative effort on their part. This is a team job. The services can't do it alone, nor can industry do it alone. I am talking now about the Navy, but I think the Air Force has presented industry with the same facts that we have.

The other thing you must look at is the lethality of the weapon we are developing here. We are talking about the airframes and engines, but actually we are trying to put something in the air, say, at 50,000 feet, which will kill, and that means that an enormous amount of our effort is going into the weapon that the airplane is going to carry. We are moving rapidly from 20-millimeter guns up to 30-millimeter, and from there into rockets, and from there into guided missiles from our airplanes.

So we hope, with fewer airplanes, we will have a greatly increased lethality in the air.

In the other areas of research—I have been talking mainly now about fighter planes—the lethality of the attack plane, that is, the bomber, of course has changed immeasurably with the development of our nuclear weapons. And that has forced us to change our whole system of delivery of the bomb and really build a totally new kind of an airplane to do that job. The A4D, which is a very small airplane, taking full advantage of the tremendous increase in yield of the bomb—in other words, we now have a smaller bomb with a tremendous yield, and we are building a relatively tiny airplane to carry that bomb. That is it there. And we believe it is going to be very successful.

Mr. HÉBERT. Off the record.

(Discussion off the record.)

Mr. NELSON. Mr. Chairman.

Mr. HÉBERT. Mr. Nelson.

Mr. NELSON. Mr. Secretary, do you want all of these performance characteristics on the record unclassified?

Secretary SMITH. I haven't given you any facts that aren't known publicly.

Mr. HÉBERT. That answers the question.

Secretary SMITH. I am talking in generalities here in some cases where I won't give you figures, but the figures I am giving you are known.

Mr. HÉBERT. That is all right.

Secretary SMITH. I hope we can do a little better than some of the figures I am giving you.

Mr. HÉBERT. All right, continue, Mr. Secretary.

Secretary SMITH. Well, now, I have talked a little bit about the characteristics which we are endeavoring to build into our airplanes which are totally different than the characteristics we were talking about 10 years ago. The aeronautical game has made a tremendous advance here. We talk sometimes only about the fact that we move from propeller engines to jet engines. In addition to that, we have moved to almost automatic control of the aircraft through electronics system, which is an amazing advance in itself, and we have moved into these new weapons, such as rockets, which we were just beginning in World War II, and they have now become very sophisticated, and to guided missiles, which we will be using from this plane here [indicating], the F7U. That is one reason we are keeping that plane in existence, because that will be one of the first airplanes to fire guided missiles.

In other fields, and I am talking now in the future of the naval aircraft program, we are striving to do away with the necessity for the tremendous runways that are becoming of more and more concern to the Air Force and ourselves. We have done a lot of work in what is called the vertical-lift airplane. The Navy has had two vertical takeoff airplanes flying for several months. We have very few hours of flight time on them. Here is one for you to see [placing model on bench]. These airplanes take off and go straight up and then can perform with the same performance of a conventional fighter at altitudes.

Mr. HESS. They are not jets?

Secretary SMITH. That is a turbo-prop version. [Deleted by Navy.]

Mr. RIVERS. And that turbo-prop proposition is so it can come down slowly? It is a counter-rotating propeller and comes down slowly?

Mr. COURTNEY. Reversible.

Mr. RIVERS. Reversible props.

Mr. COURTNEY. Is that it?

Mr. SMITH. No sir. The propellers are counterrotating, not reversible.

Mr. BROOKS. Is that developing satisfactorily?

Secretary SMITH. This is something that 10 years ago everyone said was impossible. We now have taken off vertically. We have an enormous amount of work still to do in that business. But the reward, if we can make it, will be tremendous, because it then lets us have very small airbases, either ashore or afloat, from which the airplane could take off vertically, and you eliminate the need for your 10,000-foot runway. We consider that is one of the essential things to do today in the business.

Mr. BROOKS. It would be ideal for a carrier, too, wouldn't it?

Secretary SMITH. Either for land or for sea.

Mr. HÉBERT. Are you satisfied with the progress made on it and the prospects In other words, are you satisfied with the progress made thus far or have you come across some disappointments?

Secretary SMITH. I am considered a very impatient man, Mr. Chairman, and I have never been terribly satisfied with anything. But as I look back over this development, I think it is a rather amazing one.

Mr. MILLER. This is still just in the purely experimental stage?

Secretary SMITH. Yes, sir.

Mr. HÉBERT. But you are satisfied with the experimental development at this stage. There is nothing to indicate that you are on the wrong course?

Secretary SMITH. No. But I want to see us do better.

Mr. HÉBERT. Naturally. There is no reason for you to take it back.

Secretary THOMAS. Mr. Chairman, I would like to leave one thing clear, particularly in Mr. Brooks' mind. My unhappiness, so stated, was not with your naval program, as such, but it was with our past procurement of naval aircraft. That has been corrected, in my opinion, with this new program, and I think it is a very satisfactory, effective program.

Mr. HÉBERT. So you are happy now?

Secretary THOMAS. Yes, sir.

Mr. HÉBERT. Continue, Mr. Smith.

Mr. BATES. Let's say you are unhappy with the cancellation.

Secretary THOMAS. Yes, sir.

Mr. HÉBERT. Mr. Fogler.

Secretary FOGLER. I would like to say, Mr. Chairman, the procurement policies that we have talked about are going to be applied to Secretary Smith's desire to move this ahead rapidly.

Mr. HÉBERT. Mr. Nelson.

Mr. NELSON. Mr. Smith, when you said, in answer to Mr. Brooks' question, that you were getting inferior planes, you mean planes inferior to what you would like to have, but they are the best that could be developed today?

Mr. BATES. Yes.

Secretary SMITH. I don't think I used the word "inferior."

Mr. NELSON. Yes.

Mr. BATES. Mr. Brooks.

Secretary SMITH. I intended to use what you said.

Mr. NELSON. You meant inferior from a qualitative standpoint.

Mr. HÉBERT. Yes. In other words, he would desire better, but he is getting the best he can.

Mr. BATES. That is right.

Mr. NELSON. Now, isn't it true, Mr. Secretary, that in no one plane can be built all the characteristics you desire?

Secretary SMITH. That certainly is true.

Mr. HÉBERT. It can be hoped.

Mr. NELSON. That is time, range, maneuverability, and speed. A swept-back wing will perform best at a certain altitude and at another altitude will just mush down.

Secretary SMITH. That is true, yes.

Mr. NELSON. So you really have to have a plane for special purposes, don't you?

Mr. BATES. Yes, surely.

Secretary SMITH. We have to get planes that will do more than one thing. In other words, they have to have good performance at a variety of altitudes. Because we can't support the logistic system to support too many different types of aircraft, and that is another compromise we have to make here.

But there is one other point I would like to bring out and that is the importance of the availability of test facilities, which have been built recently out of funds that the Congress has given to the armed services. I think that is going to save us an enormous amount of

money. Because today we can try out these airplanes in wind tunnels. We have supersonic wind tunnels coming into being, which means the airplane does not have to be flown. It can be tested out in the wind tunnel under the most controlled conditions. We can get all the data—not all the data, but a great deal of the data—right there, and in that way expedite the procurement of knowledge that we have to have before we commit ourselves financially for the production of the airplane. That to me is one of the things that is going to pay off, starting almost immediately.

The other thing is the tremendous advance that there has been in collecting data from an airplane that has actually been flown. We have telemetering systems now that take readings on all sorts of reactions within the airframe and within the engine, and that data is recorded so our scientists can immediately take it and evaluate it and tell us where things are begining to go wrong.

So I hope we are getting out of the position where we have to guess at the future.

Mr. RIVERS. Trial and error.

Secretary SMITH. Our predictions should be based on much more accurate information than we had before.

And finally, above that, I think both services have done a tremendous job, and industry also, in developing test pilots that are really engineers and who can get us data today over and above the data that you can acquire mechanically, of tremendous value. That to me is one of the great assets that we have acquired here in the last few years in the aeronautical business.

Mr. HÉBERT. Well, thank you very much, Mr. Secretary, and——

Mr. NELSON. Mr. Chairman.

Mr. HÉBERT. Yes.

Mr. NELSON. Could I ask just one question? I don't want to take the time of the committee.

Mr. HÉBERT. Mr. Nelson.

Mr. NELSON. Most of your production is concentrated, isn't it, at the Grumman plant, the Douglas plant, and the McDonnell plant?

Secretary THOMAS. Well, Lockheed——

Mr. NELSON. Yes. What plans has the Navy made in the event of a nuclear emergency if one of those plants should be hit with an atomic bomb? Where would you get your production?

Secretary FOGLER. We have, as I told you, a limited number of plants in reserve. We have plans, particularly with the big automobile companies, for we hope quick utilization of plant capacity within those companies. And we are working continuously—in fact, with some other officials, or some officials of the Navy made an official presentation to Secretary Wilson yesterday as to what we need to be doing in addition for mobilization readiness, only guessing what might happen with large bomb damage. We do have definite plans as to what we will do.

Now, I think no one could tell you today, and I doubt if anyone could tell you years from today, that we could immediately replace and carry on production at the same hoped-for rate in case of heavy bomb damage.

Mr. NELSON. Well. don't——

Secretary FOGLER. But it isn't overlooked.

Mr. NELSON. Does the Navy consider that if a nuclear war does develop that we are going to have to have a plant that can go immediately into production of the Navy's first-line fighters?

Secretary FOGLER. Yes.

Mr. NELSON. And there is no other plant, aside from Grumman, Douglas, and the rest of them——

Secretary FOGLER. There are other buildings.

Mr. NELSON. And machine tools to build them.

Secretary FOGLER. There are other buildings and machine tools, yes.

Mr. NELSON. The machine tools are in standby condition, ready to be used?

Secretary FOGLER. Yes, but we are concerned as to the number of machine tools. Now, please don't misinterpret that as a statement that I have made that something is bad. Because in our total economy we in the military services, like all the rest of the people of the country, have to consider the right balance between what we can afford to have in mobilization readiness and what the country needs for its overall economy. But a great deal is being done and a great many of the plans are firm.

Mr. NELSON. But there are standby factories and machine tools ready to go into production if anything happens to the main factory? [Nods.]

Mr. HÉBERT. Now, Mr. Secretary, Secretary Thomas, there is one last question I would like to ask before we recess the committee. I have here a photostatic copy of a story which appeared in the New York Times and datelined Moscow, in which they describe an exercise conducted in Russia—perhaps you have read it already, I don't know—which says:

> About 670 aircraft of various types participated in the airshow—

this is the Russian airshow—

> which included simulated landing of a helicopter task force carrying light and medium artillery, jeeps and weapons carriers under an umbrella of new model MIG–17 fighters.

And later on it says:

> The simulated landing of the helicopter task force, carried out by 33 giant copters that hovered down over the airfield under the protection of banked planes at a height of 40,000 feet, also impressed the military observers. The helicopters carried light and medium artillery for use against tanks and aircraft as well as vehicles and troops.

Now, do we have any information on that or do we have any comparable program here in connection with helicopters?

Secretary SMITH. I would like to invite you to come down and see a demonstration put on by the Marines of that type of thing sometime.

Mr. HÉBERT. In connection with this, comparable to this type of show?

Secretary SMITH. Yes, an assault—that is, airborne assault as conducted by the Marines.

Mr. HÉBERT. By helicopter?

Secretary SMITH. It is a very interesting thing to show you the good use of——

Mr. HÈBERT. In other words, Mr. Secretary, do you—I don't know whether you read this or have any knowledge of this particular show in Russia.

Secretary SMITH. I have not read that, no, sir.

Mr. HÉBERT. Well, would you say from what I have read that we have a comparable program here in America?

Secretary THOMAS. I would say we have a very advanced program in that area. As Mr. Smith said, the Marines will show you a landing by helicopter in formation of troops, of jeeps, artillery.

Mr. HÉBERT. That land from the helicopters?

Secretary THOMAS. Yes.

Mr. HÉBERT. I think the committee would be very interested in seeing that one day.

Secretary THOMAS. It is very advanced. The Marines have developed helicopter usage tremedously.

Mr. RIVERS. Where is that, down at Quantico or Lejeune?

Secretary THOMAS. Quantico.

Mr. HÉBERT. Well, we will arrange for that. I think the committee would like to see it.

Secretary THOMAS. That is a wonderful thing. I think the Marines are very advanced in the use of helicopters.

Mr. HÉBERT. Fine. We want to know that.

Now, Mr. Secretary, Mr. Secretary Fogler and Secretary Smith, the committee thanks you very much for your appearance this morning, and we are glad that Secretary Thomas is happy. [Laughter.]

Mr. HÉBERT. For the chairman's own part, unless somebody has something to the contrary of what has been stated here, I would say that we have been very impressed with the presentation made.

Mr. RIVERS. Fine testimony.

Mr. NELSON. Mr. Chairman.

Mr. HÉBERT. Yes, Mr. Nelson.

Mr. NELSON. The Navy has corrected Mr. Thomas' statement and declassified it. I would like very much to have a copy.

Mr. HÉBERT. They are getting it out to us now.

Thank you very much, Mr. Secretary.

Secretary THOMAS. Thank you, Mr. Chairman.

Secretary FOGLER. Thank you, gentlemen.

(Whereupon, at 12:23 p. m., the subcommittee was adjourned.)

APPENDIX A

UNCLASSIFIED VERSION OF STATEMENT OF THE HONORABLE CHARLES S. THOMAS, SECRETARY OF THE NAVY, REGARDING NAVY AIR PROCUREMENT PROGRAM BEFORE THE SPECIAL INVESTIGATING SUBCOMMITTEE OF THE HOUSE ARMED SERVICES COMMITTEE, FEBRUARY 4, 1955

Mr. Chairman and members of the committee, on Friday, January 28, 1955, I appeared before the House Armed Services Committee, explaining to that committee the Navy's 1956 program.

In reviewing the Navy's major procurement program at that time, I stated that the reduction in funds for new aircraft procurement from $1.9 billion in 1955 to $750 million in 1956 was due to contract cancellations and the reprograming of available obligating authority and the slippage of aircraft deliveries in certain models.

Upon being questioned about this large cutback in aircraft procurement, I explained that it had been caused by programing several years prior and that I, like others, was not happy with the necessity of having to make a cutback of this size.

I went on to say, however, that this condition has now, in my opinion, been corrected to a large extent and that all possible steps are being taken to further correct and improve it.

It was the above statement which caused this investigation.

Inasmuch as the necessity for these cancellations was caused long before my assumption of the duties of this Office, I will first give you the facts as they have been related to me and then tell you what those of us who have now assumed the responsibility of administering this procurement program are doing to correct and improve it.

I will make no attempt to either criticize or justify this past program but, as I have stated before, merely give you the facts just as they have been related to me.

They are as follows: At the end of hostilities in 1945, Naval aircraft production was immediately reduced to a minimum. The aircraft which were on hand were retained if they were usable and a foreseeable requirement existed. Because of this reserve stock of World War II airplanes, aircraft procurement in the period prior to Korea was still very small. Production at that time for Navy use was running at a very low rate.

Meanwhile, research and development on advance models was being expedited as effectively as possible with the resources available. Air speeds in the sonic and transonic range were becoming possible and concentration of effort was primarily placed on the transition from reciprocating to jet-power plants and on automatic types of electronic devices. The development of each of these areas of greatly increased possibilities also brought a multitude of new problems.

With the outbreak of hostilities in June 1950, requirements for aircraft jumped tremendously. At that time the Navy was operating only 6,000 planes. Few of them were modern; most of them were left over from World War II. There was tremendous pressure to build up the strength of the operating forces with modern jet aircraft.

Production schedules were accelerated. Supplemental procurement authorizations were issued to increase the fiscal year 1951 program to a large degree. Planning and funding for fiscal years 1952 and 1953 were greatly increased.

By June 1952, 2 years later, operational aircraft in the Navy had increased materially. During this period orders were placed for new aircraft at a rate about three times as fast as the rate of deliveries of new aircraft immediately prior to Korea. These orders included substantial increases in proven and successful models of jet and high-performance types. These became the mainstay of operations during the latter part of the Korean period.

To give you some idea of the participation of the Navy and Marine Corps in the Korean war, those 2 units from June 25, 1950, to July 27, 1953, flew a total of 346,487 sorties.

Procurement at that time also included substantial production orders for quantities of new aircraft which had been in the design stage only but which were badly needed for the fleet. These experimental planes were scheduled for production when the responsible aircraft companies stated that in their judgment the models were ready for production. It was considered at that time that these production promises were acceptable as justifiable risks even though development was incomplete and full range and demonstration tests had not been made.

Fleet squadrons operating in the Korean theater were seriously short of attack-type aircraft. In fact, losses of this type in some months of 1952 were greater than new deliveries from the factories. It therefore became necessary to substitute the obsolete World War II Corsair fighter for this mission. Under such circumstances aircraft were ordered into quantity production and in some cases all systems of the airplane had not been proven.

A summary of the essential circumstances causing this major aircraft slippage or terminations in this period indicates the following as primary causes.

First, estimates of the time required to satisfactorily complete the development of engines, component equipments, and the airframes were too optimistic, both by the designers and producers and by the Navy. Probably the most important single factor was the unsatisfactory performance, and the resulting delays in delivery of new jet engines such as those mentioned above which the Navy purchased as Government-furnished equipment to be supplied to airframe contractors. While this transition from reciprocating to jet-type powerplants was of basic significance in modernizing the fleet, it also brought problems and difficulties which were not anticipated, and perhaps could not have been.

A second primary cause for these problems was the airplane design difficulties incident to the very rapid increase in aircraft performance. Design, development, and production difficulties all played a part in these problem areas.

In any event, the final results were terminations of very substantial proportions. Approximately 1,000 aircraft which would have cost the Government slightly over $1 billion, or $1 million per aircraft, were terminated. The Bureau of Aeronautics estimates these termination changes for work already done and materials purchased will total approximately $227 million, which is less than 2 percent of the overall aviation procurement program since 1950.

These terminations were necessary as they canceled out orders for aircraft which could not perform to specifications and carry out their originally intended missions.

These problem areas and their correction, and the production of new modern high-performance jet aircraft, have been of great concern during the past 2 years to those of us now responsible for administering this aircraft-procurement program.

I would therefore now like to tell you just what we are doing in this respect.

Many factors, chiefly the greatly increased complexity of sonic and transonic aircraft and their components, made it apparent that previous policies in regard to development, testing, and production of these new models would have to be critically reviewed and revised.

This was done and through evolution the Bureau of Aeronautics "FIRM" policy was developed. FIRM stands for "fleet introduction of replacement models," and is the policy in effect today.

FIRM, we believe, is a sound, efficient method of development, procurement, and introduction of naval aircraft. It calls for:

(*a*) A low rate of production of a new plane in the first 3 years, with all production planes going immediately into the test program. Fleet delivery of planes is withheld until the entire test work on a new model is virtually completed and discrepancies and changes required as a result of tests have been made on the production line. Thus, when planes are delivered to operational squadrons they are as nearly combat ready as possible and will require no major "fixes" in the field.

(*b*) A program in which various types of complex equipment will be produced on a "pilot line" production basis before they are selected for a specific aircraft installation. Attention is also being given to the matter of alternate or "backup" installations so that when serious developmental problems are encountered, a comparable item can be substituted without seriously retarding airplane schedules.

(*c*) The airframe manufacturer is being given increased responsibility for system coordination. It will be his responsibility to integrate and correlate the various related components, furnished either by the Government or the con-

tractor, into a completely coordinated system. This procedure is particularly applicable to armament fire control, where it is necessary to integrate radar, instrumentation, and flight controls.

(*d*) Increased stress is being placed upon designing the initial article for quantity production and producing the early aircraft on tooling designed for production of higher quantities when and if the development of the model warrants such action. Although this makes the initial phase of the program more costly, it is, in the long run, more economical. Tooling constructed for quantity production which will come later represents in large measure a recoverable cost. Such tooling can be supplemented or duplicated to accommodate any desired production rate.

The present policy of producing and testing a limited number of experimental model airplanes before scheduling them for large production orders is now the procurement policy of the Department of the Navy via the Bureau of Aeronautics.

Under this new policy, if another "Korea" should occur tomorrow, we would follow a very different policy in aircraft procurement from that of 1950. This policy would be, first, to accelerate production rates of proven models now coming off the production lines and keep those models in high volume production until replacements of high-performance models are phased into the production. Second, to accelerate tests and evaluation of improved models now flying so that they could be placed in volume production at the earliest practicable moment. Third, to increase the tempo of development of new very high performance types.

The effectiveness of this program will, in my opinion, be proven with the development, before high volume production, of new models, such as the A3D—a heavy high-speed attack plane; the A4D—a small compact high-speed attack plane; the P6M—the new large fast seaplane; and others.

This new naval aircraft procurement program is now under the administration of two exceptionally well-qualified men.

Mr. James H. Smith, Jr., the Assistant Secretary of the Navy for Air, has the research and development part of this program. Mr. Smith has had a lifelong experience in the aircraft field, both as a combat carrier pilot during World War II and as a senior official of one of the world's largest airlines.

Mr. Raymond H. Fogler, the Assistant Secretary of the Navy for Material, has the contracting and programing responsibility and he is unusually well-qualified in this field, having in the past been the president of two of the largest merchandising concerns in the world.

Both of these men are conscious of the fact that, first, sonic and transonic speeds and the equipment necessary therefor is a rapidly advancing art; that while certain calculated risks must be taken, these can be programed on an orderly basis and the risks minimized.

These officials, as well as myself, also recognize the increasing importance of naval air as related to the modern naval aircraft carrier or floating airbase. I think it is generally recognized today that these modern aircraft carriers are vital to the offensive power of our military forces. They are high speed, they are hard to locate, hard to destroy, and yet at the same time can range great distances, which causes the enemy to dilute both his defensive and offensive power. They carry a heavy offensive striking power, which can be delivered almost any place in the world, using the seas as runways. They are among our most potent weapons for either global or localized war.

We, the officials of the Navy, in recognizing the increasing importance of carriers, likewise recognize the necessity of developing as rapidly as possible the high-performance airplanes necessary to complement these modern carriers.

I believe the necessary steps and programing are now being taken to accomplish this purpose and I will ask both Mr. Smith and Mr. Fogler to give you any further detailed information that you may wish which can be given within the proper confines of security.

APPENDIX B

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE FOR SPECIAL INVESTIGATIONS,
Washington 25, D. C., February 7, 1955.

Hon. CHARLES S. THOMAS.
Secretary of the Navy, Washington 25, D. C.

DEAR MR. SECRETARY: There are transmitted by hand, herewith, pages 27–101 of volume I of the proceedings of the Subcommittee for Special Investigations containing testimony of yourself and staff given in executive session February 4, 1955.

Your attention is invited to the provisions o ftitle 18, United States Code, sections 793 and 794 in connection with this transmittal.

The subcommittee's inquiry is this:

Since you have released a portion of your testimony to the press, the subcommittee desires that you examine the transcript and indicate therein those portions of the testimony which, if published, would affect the national security. It is requested that the document be returned, with your classification on the appropriate portions thereof, on or before February 14, at which time the material released must be given to the Public Printer. You are requested to acknowledge receipt of this document which is hand-carried to your office.

Sincerely,

F. EDWARD HÉBERT,
Chairman, Subcommittee for Special Investigations.
CARL VINSON,
Chairman, Armed Services Committee.

DEPARTMENT OF THE NAVY,
OFFICE OF THE SECRETARY,
Washington 25, D. C., February 14, 1955.

Hon. F. EDWARD HÉBERT,
Chairman, Subcommittee for Special Investigations,
Committee on Armed Services, House of Representatives,
Washington 25, D. C.

MY DEAR MR. CHAIRMAN: I return herewith the transcript of testimony given by myself and other representatives of the Navy Department at an executive session of your subcommittee on February 4, 1955. This transcript has been edited, and parts which are classified for security reasons have been marked for omission from the printed text, according to the request contained in your letter of transmittal. In regard to the classified data, your attention is respectfully called to Executive Order No. 10501, section 5, paragraph (i):

"This material contains information affecting the national defense of the United States within the meaning of the espionage laws, title 18, United States Code., sections 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law."

I wish to thank you for the opportunity of reviewing the transcript for errors and for classified data before its publication. Since more than one Navy representative was involved, the review required more time than would otherwise be necessary, but I trust that the transcript is being returned sufficiently early to meet the requirements of the publishing office.

If you desire further amplification of any of the points discussed at the hearing, I shall be happy to supply your committee with additional information. I believe that the Navy was given a fair hearing, and I hope that we were able to answer satisfactorily the questions which you and the members of your committee raised.

Sincerely yours,

CHARLES THOMAS.

[Downgraded to unclassified when enclosure is removed.]

[COMMITTEE NOTE.—All items marked "Confidential" in transcript as edited have been deleted.]

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE FOR SPECIAL INVESTIGATIONS,
Washington 25, D. C., February 14, 1955.

Hon. CHARLES S. THOMAS,
Secretary of the Navy, Department of the Navy,
Washington 25, D. C.

MY DEAR MR. SECRETARY: Receipt is acknowledged of your letter, Ser: 06, dated February 14, 1955, enclosing transcript of executive session of this subcommittee as to which you have indicated material classified in accordance with Executive Order No. 10501, and as to other portions of which you have indicated appropriate grammatical changes.

Your enclosure bore the symbol number SecNav Cont. No. C–438.

The places marked "Confidential" will be excised from the transcript before printing.

Your prompt attention to this matter is of great assistance to the subcommittee in dispatching the public business. I am glad to hear from you that you believe the Navy was given a fair hearing by the subcommittee; and we are glad to have your expression of willingness to further advise the committee should other questions arise in this matter.

Sincerely yours,

F. EDWARD HÉBERT, *Chairman.*

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